SELF-COMPASSION: A POTENTIAL BUFFER FOR DIFFICULT EXPERIENCES IN SPORT FOR YOUNG FEMALE ATHLETES

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By

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ABSTRACT

Through two phases we examined self-compassion as a way to promote healthy reactions, thoughts, and emotions in young women athletes when faced with emotionally difficult sport-specific scenarios. In Phase I, participants (N = 101; M_{age} = 20.0) completed measures of self-compassion, self-esteem, and narcissism, as well as reactions, thoughts, and emotions in response to hypothetical (i.e., responsible for a team loss) and recalled scenarios. After partialling out self-esteem and narcissism, self-compassion was related (p <.01) to negative affect (r =-.40), catastrophizing thoughts (r =-.30), personalizing thoughts (r =-.32), and behavioural equanimity (r =.28) for the hypothetical scenario. A similar pattern was found for the recalled scenario. Participants returning for Phase II were randomly assigned to a self-compassion induction (n = 21), self-esteem induction (n=20), or writing control (n=18) group. Following the induction, they responded to the same hypothetical scenario as in Phase I. A doubly multivariate analysis with self-esteem and narcissism as covariates showed a non-significant induction by time interaction, Wilks' Lambda=.75, F(12,96) = 1.27. However, hierarchical regression analysis similar to Leary et al. (2007) showed initial levels of self-compassion as the only significant predictor for negative affect, personalizing thoughts, and behavioural equanimity. Future research needs continued focus on *how* and *when* self-compassion is most useful to young women athletes.

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accepting and understanding of the arduous journey that has been my thesis, all the while providing constant reassurance that I would eventually finish the task at hand. Thank you for never doubting me in my academic quest. Lastly, to my daughter Mya…well, turn the page (when you're old enough to do so without ripping it).

DEDICATION

Mya, you are only 2.373 years old right now, and you will not understand the significance of this big book for many years. But, hopefully long before you can remotely grasp what it means, you will understand how much I love you and how much you mean to me. Being with you each day is the one thing I can *always* rely on to make me happy, and to put everything else into perspective. I know you will accomplish great things in life, and all I ask for is that you let me come along for the ride.

~Daddy

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CHAPTER 1

1.1 REVIEW OF LITERATURE

Young women's sport participation is on a continual increase and is associated with many positives (Nichols, Sanborn, & Essery, 2007). For example, improved emotional development, self-esteem and body-image, along with decreased risk of heart disease and diabetes mellitus are just some of the psychological and physiological benefits women can experience through sport (Fraser-Thomas, Côté, & Deakin, 2005; Nichols et al., 2007). Social and intellectual benefits have also been correlated with young women's participation in sport, including greater social acceptance and closer relationships with classmates, as well as better cognitive development (Fraser-Thomas et al., 2005). Additionally, young women who partake in sport have been shown to have higher levels of psychological well-being than those that do not (Boyer, 2008). Unfortunately, adolescence and young adulthood can be very difficult phases of life for most individuals (Crespi & Politikos, 2008). For young women athletes, participation in sport might actually have a compounding effect and serve to heighten the challenge of an already daunting life stage. Particularly, women athletes are subject to not only performance, but also appearance based evaluations in sport (Greenleaf, 2002; Mosewich, Vangool, Kowalski, & McHugh, 2009), each of which potentially resulting in a variety of repercussions, such as body image concern (Gerner & Wilson, 2005) and body dissatisfaction (Gerner & Wilson, 2005; Paxton, Norris, Wertheim, Durkin, & Anderson, 2005).

Appearance based evaluations in sport, such as self-objectification—where individuals view and evaluate their bodies as objects (Greenleaf & McGreer, 2006)—may lead to additional problems like eating disorders and depression (Frederickson & Roberts, 1997). In addition, a primary source of evaluation in sport is being judged on one's performance, specifically when athletes fail to successfully perform a sport-specific task, such as missing the net on a penalty shot (Sagar et al., 2009). Individuals can become fearful and develop an anxiety related to failing in sport because of the negative experiences and emotions that are likely to ensue; including guilt, shame, embarrassment, eating disorders, worry, and depression, to name a few (Conroy, 2001; Fauzee, Lai, Soh, & Latif, 2008). As a result, an effective coping method is clearly needed for young women athletes to manage the many types of emotionally difficult experiences that can accompany sport participation as well as to provide a healthier, more positive overall sporting experience.

Much of the existing literature related to coping with challenges, such as evaluation in sport, is focused on self-esteem (Boyer, 2008). Self-esteem "refers to how much one likes or values the self and is based on congruence with personal standards or on comparisons with others" (Neff, 2008, p. 3). The rationale supporting self-esteem promotion in sport is that athletes with higher self-esteem levels will have a more positive sporting experience and greater psychological well-being (Boyer, 2008). However, despite the fact that low self-esteem has been shown to be related to negative psychological effects including depression and lack of motivation (Harter, 1999), and that high self-esteem has been linked with positive psychological benefits such as greater

levels of happiness (Baumeister, Campbell, Krueger, & Vohs, 2003), this construct is not held in as high of a regard as it once was (Neff & Vonk, 2009).

Self-esteem has recently come under scrutiny for several reasons that would suggest there might be a more effective method of dealing with negative experiences in sport for young women. One source of critique regarding self-esteem is that it requires positive evaluations, oftentimes in relation to others (Neff, 2003b), in order to be raised in individuals. Also, with high levels of self-esteem comes the potential for individuals to be narcissistic or self-centered, and hence dismiss negative evaluations, assuming they are unreliable (Neff, 2003b; Neff, 2008; Neff & Vonk, 2009). Furthermore, people with overly high levels of self-esteem often deflect blame onto others (Neff & Vonk, 2009). Considering the potential pitfalls of high self-esteem, perhaps a complementary method of coping with evaluative situations is needed.

Self-compassion has recently been introduced as beneficial for coping in circumstances involving negative evaluations (Leary, Tate, Adams, Allen & Hancock, 2007). Specifically, self-compassion has shown potential in buffering the negative affect associated with evaluations (Leary et al., 2007). As such, self-compassion may provide a complement to self-esteem, allowing individuals to more effectively cope with evaluations, as well as other emotionally difficult experiences. Before elaborating in detail the ways that self-compassion may be useful for young women athletes, a brief introduction to the Buddhist concept of self-compassion (Neff, 2003a) is provided below.

Self-compassion is comprised of three basic elements that are conceptually distinct, yet also share some overlap with one another (Neff, 2003b). The first component of self-compassion, self-kindness, involves treating oneself with kindness and

understanding, rather than harsh criticisms and judgments (Neff, 2003a; Neff, 2003b). Secondly, a self-compassionate individual views his or her own experiences as part of the larger human experience, rather than considering them isolated; this is referred to as common humanity (Neff, 2003b). Maintaining a clear, mindful perspective by identifying with one's painful feelings and not avoiding them or repressing them is also imperative so that self-compassion may be utilized (Neff, 2003a); this final component is mindfulness (Neff, 2003b). Essentially, mindfulness helps shift one's attention away from elaborative cognitive processes, allowing the individual to focus on nonjudgmental attitudes (Neff & Vonk, 2009). Mindfulness also helps to put one's personal experiences into perspective and view one's suffering with a sense of clarity, rather than to ignore or disregard failures (Neff, 2003a).

The three basic components of self-compassion—self-kindness, common humanity, and mindfulness—can act individually, but are generally complemented by one another (Neff, 2003b). For example, a certain level of mindfulness is required to allow oneself to mentally separate from a negative experience enough to utilize self-kindness and common humanity. Alternatively, mindfulness can be attributed more directly to the other two components of self-compassion, as it decreases self-criticism and increases self-understanding, thus enhancing self-kindness; also, it increases common humanity by countering egocentrism (Neff, 2003b). Regardless of the methods by which self-kindness, common humanity, and mindfulness overlap and interact, they each serve as constituents of self-compassion.

Though some overlap between self-compassion and self-esteem are evident, (e.g., both self-compassion and self-esteem contribute to improved overall psychological well-

being [Boyer, 2008; Neff, 2003b]), self-compassion is believed to encourage understanding and feelings of kindness toward oneself, without having to conform to "ideal standards" as required with self-esteem (Neff, 2003a). Self-compassion is exclusive to the self and lessens performance and appearance based comparative evaluations with others (Magnus, Kowalski, & McHugh, 2010; Neff, Kirkpatrick & Rude, 2007). Ultimately, self-compassion "attenuates people's reactions to negative events in ways that are distinct from and, in some cases, more beneficial than self-esteem" (Leary et al., 2007, p. 887).

There are many demonstrated benefits of self-compassion documented to date. Regarding psychological health, Neff et al. (2007) explored the effects of self-compassion on components of the five-factor model of personality. With women participants as the majority (68%), Neff et al. (2007) found positive associations between self-compassion and traits such as happiness, agreeableness, and extroversion. Also, negative associations were evident between self-compassion and both neuroticism and negative affect. Additionally, Leary et al. (2007) showed that highly self-compassionate individuals were able to more readily accept undesirable traits of their character compared to those with low self-compassion levels.

Also relevant to my research is that self-compassion has been shown to be a crucial strategy in coping with instances of emotional pain and failure (Neff, Kirkpatrick, & Rude, 2007), as well as other potentially negative events, such as humiliation, rejection, and embarrassment (Leary et al., 2007). For example, when employed as a coping strategy, self-compassion has shown to be an effective method for dealing with academic failure (Neff, Hsieh, & Dejitterat, 2005). As another example, a sample of

undergraduate university students with high levels of self-compassion were able to cope more adaptively with failure, seeing it as a potential learning opportunity, compared to those with lower levels of self-compassion (Neff et al., 2005). Furthermore, individuals with higher levels of self-compassion have been found to be more self-motivated to improve themselves and their performance upon a moral transgression, personal weakness, or test failure (Breines & Chen, 2012). If self-compassion can help individuals cope with various types of failure, perhaps it will have the same implications for failure in sport-specific situations amongst young female athletes. Provided that evaluations are often made about athletes' failures in sport (Conry, Poczwardowski, & Henschen, 2001), self-compassion may lessen the emotional difficulties associated with failure-based, sport-specific evaluations.

Two quantitative studies that do look at self-compassion and young women in sport and exercise are Magnus et al. (2010) and Mosewich, Kowalski, Sabiston, Sedgwick, and Tracy (2011). Findings from these studies indicate that self-compassion may provide a buffer against some of the negative and self-evaluative thoughts of young women in sport (Mosewich et al., 2011) and/or exercise (Magnus et al., 2010). Together Mosewich et al. (2011) and Magnus et al. (2010) showed that self-compassion predicted unique variance beyond self-esteem on social physique anxiety, obligatory exercise, ego goal orientation, ego goal orientation, objectified body consciousness, body surveillance, body shame, fear of failure, fear of negative evaluation, and introjected motivation. Such evidence provides support that self-compassion may not only be an effective buffering technique for young women athletes and exercisers in the face of emotional pain and/or

failure, but also that self-compassion may offer additional benefits to self-esteem in coping with evaluation.

However, both studies are limited in the fact that their designs are cross-sectional—there can be no cause-and-effect conclusions regarding self-compassion and its implications. More importantly, neither Magnus et al. (2010) nor Mosewich et al. (2011) used sport-specific situations, so it is difficult to determine how young female athletes would react if provided sport scenarios. Also, Magnus et al. (2010) focused on female "exercisers", which doesn't necessarily translate to female "athletes". Therefore, despite the research of Magnus et al. (2010) and Mosewich et al. (2011) showing potential for self-compassion to buffer difficult experiences in sport and/or exercise for young women, at this point our understanding of the role of self-compassion in sport is very limited.

One study that might offer a useful framework to explore research questions related to the role of self-compassion in sport was provided by Leary et al. (2007). They presented scenarios to participants to study whether or not self-compassion could be useful for individuals confronted with negative experiences in specific situations. Composed of five sub-studies, the overlying goal of Leary et al.'s (2007) work was to explore the cognitive and emotional processes by which self-compassionate people deal with unpleasant life events. Although their study did not focus specifically on young female athletes nor on sport-specific situations, it is particularly relevant to my research because it explored the role self-compassion might play in how participants react, think, and feel in response to recalled and hypothetical emotionally difficult situations. Hence, Leary et al.'s (2007) studies provide a methodological model for my work. By employing

a similar framework, my goal is to replicate parts (and extend other parts) of Leary et al.'s (2007) methodology, focusing specifically on sport-specific scenarios with female athletes. Leary et al.'s (2007) studies involved reactions, thoughts, and emotions of participants in response to: recalled negative life events (Study 1), hypothetical negative scenarios (Study 2), and a recalled negative event following either a self-compassion induction, a self-esteem induction, or no induction (Study 5). At this point, I will elaborate on these three sub-studies individually, by providing their research goals, overlying rationale for each, and also by briefly describing some of their major findings.

The primary aim of Study 1 (Leary et al., 2007) was to study the role self-compassion might play in negative everyday events. Participants were asked to "describe in two sentences or fewer, the worst thing that had happened during the past four days" (Leary et al., 2007, p. 889). Following the participants' descriptions, a series of questions were presented that pertained to the recalled event; each of which were designed to assess reactions, thoughts, and emotions, respectively. Of the questions designated to measure reactions to the recalled event, some were hypothesized to relate to self-compassion (e.g. "I tried to be kind to myself"), while others were assumed to be independent of self-compassion (e.g., "I expressed my emotions to let off steam"). As expected, results of Study 1 showed that self-compassion was positively related to kind treatment of oneself and equanimity (i.e., remaining calm and unflustered [Neff, 2009]) in negative situations. Also, self-compassion was unrelated to the general reactions that were hypothesized to be independent of self-compassion (Leary et al., 2007). These findings further the idea that self-compassion is linked to kind treatment of the self, and in more general terms, healthy

reactions to emotionally difficult scenarios, which is one of the major premises of my research.

Based on the reactions, thoughts, and emotions of participants to recalled negative life events, findings by Leary et al. (2007) indicate that individuals' self-compassion levels likely play a role in how they are able to deal with negative life scenarios they have experienced. More specifically, self-compassion seems to factor in to how adaptively and healthily individuals handle situations like the recalled scenario presented by Leary et al. (2007). However, the challenge with assessing recalled situations is that the participants probably experienced, remembered, and reported different types of events (Leary et al., 2007). This limitation of Study 1 provided one of the central foci of their Study 2, which was to control for such variance by presenting the same hypothetical negative scenarios for all participants.

Among the primary goals of Study 2 (Leary et al., 2007) was to establish differences between self-compassion and self-esteem across hypothetical situations, and to show that self-compassion is not related to narcissism. While three hypothetical scenarios were presented to Leary et al.'s (2007) participants, one was sport specific, thus, making the findings particularly relevant to my research. That scenario is as follows: "being responsible for losing an athletic competition for your team" (Leary et al., 2007, p. 891-892). Ratings of seven behavioural reactions to the hypothetical scenarios resulted in a composite index of behavioural equanimity (i.e., reacting calmly). For the sport specific scenario, self-compassion predicted unique variance beyond self-esteem and narcissism for behavioural equanimity. The specific thoughts that participants reported in response to the hypothetical scenarios revealed the following four factors,

accounting for 63.5% of the variance: catastrophizing, personalizing, equanimity, and humour. For the sport specific scenario, self-compassion accounted for unique variance beyond self-esteem and narcissism for both personalizing and equanimity[1]. Finally, after items in five emotion scales were summed into a single factor, self-compassion revealed unique variance beyond self-esteem and narcissism for this single factor, labeled as total negative affect (Leary et al., 2007).

In Study 5, Leary et al. (2007) induced self-compassion and self-esteem across two experimental groups of randomly assigned participants. Additionally, there were two other groups; one being a writing task control group, and the other being a control group that received no intervention. Prior to the inductions, participants were presented with the following prompt: "think about a negative event that you experienced in high school or college that made you feel badly about yourself—something that involved failure, humiliation, or rejection" (Leary et al., 2007, p. 899). Subsequently, and most relevant to my research, responses to questions regarding the scenario revealed that the self-compassion induction group reported significantly lower negative affect than the self-esteem induction and no induction groups. Notably, the latter two groups did not differ from one another, implying that self-esteem either did not help alleviate negative affect following the recalled scenario or that state self-esteem could not be induced (Leary et al., 2007).

In summary, if some of the benefits of self-compassion also apply to young females in sport-specific situations, perhaps inducing self-compassion can provide an effective coping method for young women faced with emotionally difficult experiences

[1] This type of equanimity is different than behavioural equanimity. While behavioural equanimity refers to how an individual reacts in a situation, the equanimity being assessed here, is about how one thinks in a situation.

in sport. Essentially, the overlying goal of my research is to explore whether self-compassion can help young female athletes react, think, and feel in healthier, more adaptive ways to sport-specific, challenging scenarios. By incorporating the work of Leary et al. (2007) to assess the potential of self-compassion, exclusively in young women athletes, I hope to fill what is a current gap in the literature. In doing so, perhaps my research can provide support for the idea that self-compassion can help make sport a more positive overall experience for young females.

1.2 PURPOSE

The overall purpose of my research was to determine if self-compassion can promote healthy reactions, thoughts, and feelings in young female athletes, faced with emotionally difficult sport-specific situations. To assess this general purpose statement, I utilized the work of Leary et al. (2007) as a methodological model, and incorporated two phases in my study, each of which had its own specific purpose.

Purpose of Phase I:

The main objective of Phase I was to determine if young female athletes with higher levels of self-compassion react, think, and feel in more healthy ways when faced with emotionally difficult, hypothetical and recalled, sport-specific situations, than those with lower levels of self-compassion. Aside from the main objective, Phase I also permitted comparisons among self-compassion, self-esteem, and narcissism levels in the participants. Specifically, assessing comparative effects among self-compassion, self-esteem, and narcissism, enabled me to determine if self-compassion explained unique

variance beyond self-compassion and/or narcissism, on the reactions, thoughts, and feelings for the hypothetical and recalled scenarios. Also, my findings should support the notion that self-compassion and self-esteem are highly correlated, as are self-esteem and narcissism, while self-compassion and narcissism are not related (Leary et al., 2007; Neff, 2003a).

Purpose of Phase II:

The overarching purpose of Phase II was to determine if a self-compassion induction can lead to more healthy reactions, thoughts, and feelings in response to the hypothetical, emotionally difficult, sport-specific situation presented in Phase I.

Methodology Overview

The work of Leary et al. (2007) utilized specific scenarios to explore if self-compassion can be a helpful coping method for negative experiences, which is why their framework was used as a methodological framework for my research. Leary et al. (2007) conducted five sub-studies within the same overarching self-compassion study; three of which apply directly to my research. Over the course of two phases, I based the methodology of my research on Leary et al.'s Study 1, Study 2, and Study 5. My Phase I was essentially a combination of their Study 1 and Study 2, while my Phase II was a combination of their Study 2 and Study 5. It is also important to note that my research focused specifically on young female athletes as participants.

Figure 1 presents an overview of the two phases that comprised the methodology of my study. Phase I included the online participation of 101 participants. Baseline levels

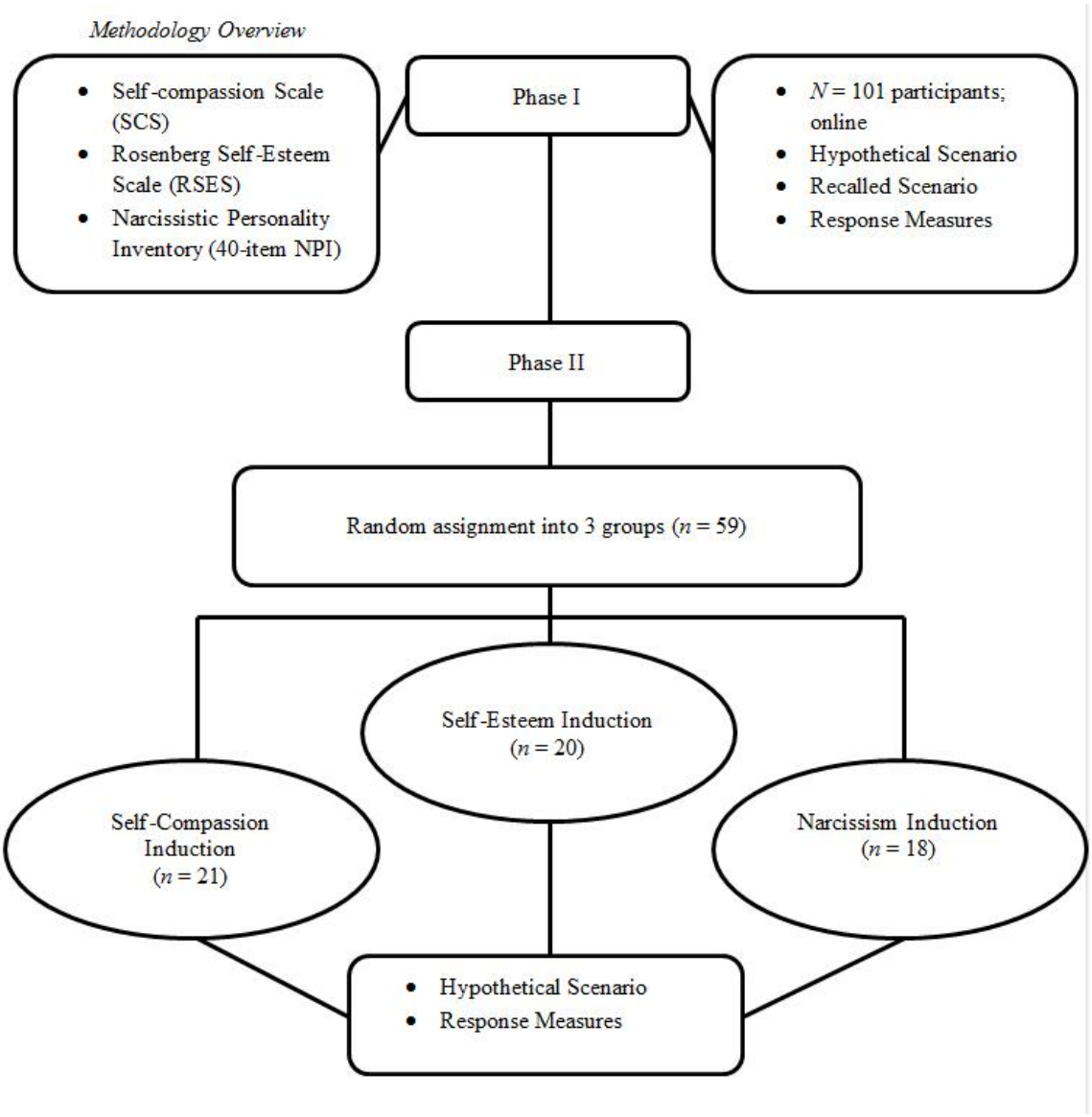
of self-compassion, self-esteem, and narcissism[2] for each participant were gathered from the online scales they completed. Also, participants were presented with a hypothetical, sport-specific, emotionally difficult scenario (similar to Leary et al., 2007, Study 2) and asked about a recalled, sport-specific, emotionally difficult scenario (similar to Leary et al., 2007, Study 1). Participants then rated how likely they would react, think, and feel in response to both the hypothetical scenario and the recalled scenario. The main goal of Phase I was to determine if participants with high levels of self-compassion had healthier reactions, thoughts, and feelings in response to the hypothetical and recalled sport scenarios, than participants with lower levels of self-compassion.

Approximately two months after participants completed Phase I, they were asked to individually report to a research lab on campus at the University of Saskatchewan, where they were randomly divided into one of three groups[3]. This second phase included 59 of the 101 participants that completed Phase I. Each participant was randomly assigned, using a random number table, to one of three groups upon reporting to the research lab. The three groups were based on Leary et al. (2007, Study 5) and were as follows: self-compassion induction group (n = 21), self-esteem induction group (n = 20), and writing control group (n = 18). Once participants were assigned to their respective groups, they were presented with the same hypothetical scenario as in Phase I, prior to induction. Subsequently, participants were asked to respond to the same questions as they were asked in Phase I in response to the hypothetical scenario. By comparing the

[2] Narcissism was included as a measure in an attempt to further Neff's (2003a) findings that self-esteem and narcissism are positively related, while self-compassion is unrelated to narcissism. If self-compassion and narcissism are indeed unrelated, therein lies a potential advantage of self-compassion over self-esteem.
[3] The term "groups" refers to the induction groups. Participants reported individually to the research lab and were given their respective inductions one-on-one, by a female research assistant, as opposed to in a group setting.

reactions, emotions, and thoughts following the inductions to those of the Phase I, I was able to determine if the inductions influenced participants' responses to the hypothetical scenario. Specifically, I was interested in knowing whether the participants in the self-compassion induction group would have healthier reactions, thoughts, and emotions in response to the hypothetical scenario following the induction, than before it, as well as in relation to the responses from the self-esteem and control groups.

Figure 1


Methodology Overview
Self-compassion Scale (SCS)
Rosenberg Self-Esteem Scale (RSES)
Narcissistic Personality Inventory (40-item NPI)
Phase I
N = 101 participants; online
Hypothetical Scenario
Recalled Scenario
Response Measures
Phase II
Random assignment into 3 groups (n = 59)
Self-Esteem Induction (n = 20)
Self-Compassion Induction (n = 21)
Narcissism Induction (n = 18)
Hypothetical Scenario
Response Measures

CHAPTER 2

2.1 PHASE I

2.1.1 HYPOTHESES OF PHASE I

1. Self-compassion should be related to healthy reactions (i.e., behavioural equanimity), thoughts (i.e., catastrophizing, personalizing, equanimity, and humorous), and emotions (i.e., total negative affect) in young female athletes in response to the emotionally difficult *hypothetical* sport-specific situation.[4]
    a. Self-compassion should predict unique variance beyond self-esteem and narcissism for reactions (i.e., behavioural equanimity), thoughts (i.e., personalizing and equanimity), and emotions (i.e., total negative affect), to the emotionally difficult hypothetical sport-specific situation[5].
2. Self-compassion should be related to healthy reactions (e.g., "I tried to be kind to myself"), thoughts (e.g., "this isn't any worse than what lots of other people go through") and emotions (e.g., "anxiety") in young female athletes in response to the emotionally difficult *recalled* sport-specific situation.
    a. Self-compassion should predict unique variance beyond self-esteem and narcissism for reactions (i.e., "I tried to be kind to myself", "I tried to make myself feel better", "I was really hard on myself", and "I kept the situation in perspective"), thoughts (i.e., "I seem to have bigger problems than most people do", "I'm a loser", "this isn't any worse than what lots of

[4] The predicted direction of the relationships in my hypotheses are presented in Table 2.8.
[5] Based on non-significant relationships found by Leary et al. (2007), self-compassion might not predict unique variance beyond self-esteem and narcissism for catastrophizing thoughts and humourous thoughts.

other people go through", "why do these things always happen to me?", "in comparison to other people, my life is really screwed up"), and emotions (i.e., "anxiety", "self-conscious emotions", and "sadness")[6].

2.1.2 PARTICIPANTS

There were 101 female athletes between 14 and 25 years of age recruited via various techniques, including word of mouth and speaking with coaches of different sport clubs, including university athletics. To partake in my study, individuals had to have been enrolled in an organized sport within the past year. Participation in the study was voluntary. Participants represented a variety of sports (see Table 2.1), and were predominantly of Caucasian ethnicity (see Table 2.2). The sociocultural questionnaire was taken from Statistics Canada (2013). The level of competition that participants had been involved in over the past year ranged from recreational to international (see Table 2.3). Also, parental education levels were provided through self-report measures (see Table 2.4), as were the sport participation frequencies of the participants (see Table 2.5).

2.1.3 MEASURES

2.1.3.1 Self-Compassion

Self-compassion levels of participants were assessed using the Self-Compassion Scale (SCS) (Neff, 2003a; see Appendix A). The SCS is based on the premise that self-

[6] Based on the non-significant relationship found by Leary et al. (2007), self-compassion might not predict unique variance beyond self-esteem and narcissism for the thought, "everyone has a bad day now and then".

Table 2.1

Phase I participant age, height, and weight information

	n	Reported Range	*M*	*SD*
Age	101	14-25	20.01	2.80
Height	100	152.4-188.0cm	169.3cm	7.2cm
Age 14	1	165.1-165.1cm	165.1cm	n/a
Age 15	6	160.0-175.3cm	168.7cm	5.5cm
Age 16	7	160.0-180.3cm	168.4cm	7.9cm
Age 17	12	154.9-180.3cm	167.9cm	6.5cm
Age 18	7	162.6-172.7cm	166.2cm	4.1cm
Age 19	7	162.6-180.3cm	169.8cm	6.1cm
Age 20	8	152.4-187.0cm	173.5cm	11.2cm
Age 21	12	160.0-180.3cm	168.1cm	6.3cm
Age 22	23	157.5-181.0cm	169.1cm	6.5cm
Age 23	11	157.5-188.0cm	173.0cm	9.7cm
Age 24	2	160.0-167.6cm	163.8cm	5.4cm
Age 25	4	165.1-180.3cm	170.2cm	6.9cm
Weight	100	40.8-90.7kg	63.1kg	8.9kg
Age 14	-	-	-	-
Age 15	6	48.1-75.8kg	58.5kg	9.3kg
Age 16	7	52.2-70.3kg	62.2kg	7.4kg
Age 17	12	40.8-79.4kg	62.3kg	11.1kg
Age 18	7	49.9-65.8kg	57.2kg	5.1kg
Age 19	7	52.2-77.1kg	63.6kg	9.3kg
Age 20	8	49.9-77.1kg	65.8kg	9.6kg
Age 21	12	47.6-77.1kg	60.9kg	6.6kg
Age 22	23	45.8-77.8kg	64.8kg	8.3kg
Age 23	12	55.3-90.7kg	68.2kg	9.9kg
Age 24	2	60.8-63.5kg	62.1kg	1.9kg
Age 25	4	48.5-74.8kg	59.7kg	11.7kg

Note. Height and weight data was self-reported.

Table 2.2

Phase I participant sociocultural information

Sociocultural Information	*n*	%
Aboriginal	6	5.9
Asian (not specified)	1	1.0
Black (not specified)	2	2.0
Caucasian/White	94	93.1
Chinese	2	2.0
Japanese	1	1.0
Latin American	2	2.0

Note. Participants could identify as belonging to more than one sociocultural category.

Table 2.3

Phase I frequencies of participant club sport involvement by level

Sport	Recreational	Local	Provincial	Regional	National	International I	International II
Badminton	1	4	1				
Baseball				1	1		
Basketball	14	14	10	8	9	1	
Beach Volleyball	2				1		
Boxing	1						
Cheerleading		2	3	4	2	2	
Cross Country Running	1	3	2	3	1		
Curling	2				1		
Dance			2				
Fastball		2	2	1			
Field Hockey		1					
Floor Hockey	4						
Football	9	5	1	3			
Golf	2	3	1				
Gymnastics							
Hockey	2	2	1	1			1
Marathon Running	2	1		1	1	1	
Martial Arts	2						
Ringette				1			
Rock Climbing			1				
Rowing					1		
Rugby	2	1	1	1			
Running	1	1					
Slow Pitch	5	3					
Soccer	14	16	11	9	10	2	2
Softball		4	6	2	4	4	
Snowboarding	1						
Swimming	1	1	2				
Track & Field	2	9	13	12	8	1	
Triathlon	1			1			
Ultimate Frisbee	5	3					
Volleyball	12	8	6	4	4		

Note. All sports are listed in alphabetical order. *Recreational* refers to competing in intramurals or in a recreational league. *Local* refers to competing against athletes from around the city/town. *Provincial* refers to competing against athletes from around the province. *Regional* refers to competing against athletes from nearby provinces. *National* refers to competing at a National Championship. *International I* refers to competing against athletes from another country. *International II* refers to being a member of a national team (i.e., representing/represented Canada). Note that the majority of participants participated in a number of sports at a variety of levels, and therefore totals in each column will not equal the number of participants (N = 101).

Table 2.4

Phase I participant parental education level information

	Father		Mother	
Highest education level attained	*n*	%	*n*	%
Did not finish high school	7	6.9	0	0
Completed high school	13	12.9	9	8.9
Some education after high school	17	16.8	25	24.8
Graduated from college or university	61	60.4	66	65.3
Unknown	3	3.0	0	0
Unreported	0	0	1	1.0

Table 2.5

Phase I participant sport involvement in past week

Sport participation in past week	*n*	%
Not at all	7	6.9
Once or twice	34	33.7
Three or four times	30	29.7
Five or more times	30	29.7

compassion is comprised of three basic components: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus over-identification. Neff (2003a) designed the SCS with the intent of measuring each of the basic components through the use of subscales, and summing their respective scores to create an overall measure of self-compassion. Neff (2003a) included subscales as part of the SCS so that the three core elements of self-compassion would be reflected in the scale's design. However, Neff (2003a) believed (and found) that there would be high inter-correlations between the subscales, and the goal was to create a measure of self-compassion as a single overarching construct, which was the end result.

The SCS consists of 26 items, rated on a scale from 1 ("almost never") to 5 ("almost always") (Neff, 2003a). Ten of the 26 items are related to self-kindness (5-items, e.g., "When I'm going through a very hard time, I give myself the caring and tenderness I need") and self-judgment (5-items, e.g., "When I see aspects of my life that I don't like, I get down on myself"). Another eight are designed to assess common humanity (4-items, e.g., "When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people") and isolation (4-items, e.g., "When I fail at something that's important to me I tend to feel alone in my failure"). The final eight items measure mindfulness (4-items, e.g., "When I fail at something important to me I try to keep things in perspective") and over-identification (4-items, e.g., "When I'm feeling down I tend to obsess and fixate on everything that's wrong"). Of particular importance is the emergence of one higher order self-compassion factor from the inter-correlations of the six subscale factors (Neff, 2003a). The 26-item SCS has acceptable internal consistency reliability, generally ranging from α =.73 (Leary et al., 2007) to α

=.94 (Neff et al., 2005) for university student samples. For adolescents, the internal consistency reliability has also been deemed acceptable at α =.87 (Mosewich et al., 2011).

The validity of the SCS was assessed on both convergent and discriminant validity. For convergent validity, Pearson's correlation coefficients were calculated between the SCS and various scales that measure related constructs (Neff, 2003a). The SCS is related to the Social Connectedness scale (r = .41, p < .01), and also the three subscales of the Trait-Meta Mood Scale (Attention, r = .11, p < .05; Clarity, r = .43, p < .01; and Repair, r = .55, p < .01). Also providing evidence for convergent validity is a significant negative correlation between the SCS and Self-Criticism subscale of the Depressive Experiences Questionnaire (r = -.65, p < .01) (Neff, 2003a). Discriminant validity is supported by a nonsignificant correlation between the SCS and the Marlowe-Crowne Social Desirability scale (r = .05, p = .34) (Neff, 2003a). Additional evidence for discriminant validity is the nonsignificant negative correlation between the SCS and narcissism (r = -.08, p = .23) after partialling out the variance accounted for by self-esteem (based on measurements from the Rosenberg Scale) (Neff, 2003a).

2.1.3.2 Self-Esteem

Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965; see Appendix B). The RSES is the most widely used, psychometrically analyzed, and empirically validated self-esteem measure to date (Robins, Hendin, & Trzesniewski, 2001). The RSES is based on a Likert-type response scale, ranging from 1 ("strongly disagree") to 4 ("strongly agree") (Baranick et al., 2008;

Gray-Little, Williams, & Hancock, 1997). The RSES consists of 10 items (e.g., "On the whole, I am satisfied with myself"). Of these 10 items, five are positively worded (e.g., "I feel that I have a number of good qualities"), while the other five are negatively worded (e.g., "At times, I think I am no good at all") (Martin-Albo, Nunez, Navarro, & Grijalvo, 2007). A composite score self-esteem score was created by summing the 10 items, following reverse scoring of negatively worded items.

The internal consistency reliability (Cronbach's alpha) of the RSES have been shown to be acceptable in various studies of university students (e.g., α = .72 to α =.88, Gray-Little et al., 1997, Martin-Albo et al., 2007; Robins et al., 2001), and also in adolescent samples (α = .76 to α = .88, Choi et al., 2006; Rosenberg, 1965). For adolescent female athletes, the internal consistency reliability has been shown as acceptable at α = .83 (Mosewich et al., 2011). Also, Choi et al. (2006) and Martin-Albo et al. (2007) provided support for construct validity of the RSES, again in an adolescent sample.

2.1.3.3 Narcissism

To assess narcissism, the 40-item Narcissistic Personality Inventory (NPI) (Raskin & Hall, 1979; see Appendix C) was used. Though the original NPI consisted of 54 items, the 40-item scale developed by Raskin and Hall (1988) is highly correlated with the original version (r = .98), and is currently the most widely used measure of narcissism (Corry, Merritt, Mrug, & Pamp, 2008; Raskin & Hall, 1988). It assesses seven narcissistic components: Authority, Self-Sufficiency, Superiority, Exhibitionism, Exploitativeness, Vanity, and Entitlement (Leary et al., 2007; Raskin & Hall, 1988). The

NPI is a forced-choice, self-report questionnaire, designed to measure narcissism as a personality characteristic (Corry et al., 2008). Each of the 40 items consists of a pair of narcissistic and non-narcissistic statements. For example, "modesty doesn't become me" would represent narcissism, while its paired statement, "I am essentially a modest person" would provide the non-narcissistic alternative (Corry et al., 2008). Participants are asked to select which statement of each pairing best represents their personality. Respectively, these factors showed loadings of .76, .36, .75, .62, .68, .33, and .50; and combined, they accounted for 52% of the NPI variance (Raskin & Hall, 1988). The 40 scores are summed together, with higher scores indicating higher levels of narcissism (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). As a composite inventory, the NPI's internal consistency reliability is acceptable (e.g., α = .80 to α = .85 with youth samples [Corry et al., 2008; Leary et al., 2007; Raskin & Hall, 1979]).

2.1.3.4 Demographics

General demographic information (Mosewich et al., 2011; see Appendix D) was attained from participant responses to a series of questions. Gender, age, height, weight, and date of birth were included in the questionnaire, as were questions about sociocultural background, and parental education levels. It should be noted that the parental education level portion of the questionnaire is from a study by Sabo, Miller, Melnick, Farrell, and Barnes (2005).

Another demographic questionnaire, albeit specific to sport, was included as well. Information regarding sport involvement (within the last 12 months) and competition level was gathered from the provided questionnaire (Mosewich et al., 2011; see Appendix

E). A sport frequency measure was also included, based on the work of Daniels and Leaper (2006), to assess the sport participation frequency of each participant.

2.1.3.5 Hypothetical Scenario Responses

Following the completion of the SCS, RSES, NPI, and the demographics questionnaire participants were presented with a hypothetical, sport-relevant scenario, and asked to imagine themselves in the situation as vividly as possible. The scenario was as follows: "Being responsible for losing an athletic competition for your team" (Leary et al., 2007, p. 891-892). They then rated how they would react (see Section 2.1.2.5.1), think (see Section 2.1.2.5.2), and feel (see Section 2.1.2.5.3) in the hypothetical situation presented.

2.1.3.5.1 Reactions: Behavioural Equanimity.

Participants were asked to indicate how likely they would be to react to the hypothetical scenario in seven ways, based on a scale of 1 ("not at all") to 5 ("extremely"). The reaction items were: (a) "remain relatively calm and unflustered," (b) "overreact," (c) "experience strong emotions but not get carried away with them," (d) "have no emotional reaction whatsoever," (e) "take the situation in stride," (f) "leave the situation quickly in order to deal with my emotions," and (g) "replay the situation in my mind for a long time afterwards" (Leary et al., 2007, p. 892). Highly reactive statements (i.e., "overreact", "leave the situation quickly in order to deal with my emotions", and "replay the situation in my mind for a long time afterwards") were reverse scored. Then, the behavioural reactions were summed, creating an index of behavioural equanimity.

2.1.3.5.2 Thoughts.

To assess how participants would think in the provided hypothetical scenario, they were asked to rate how likely they would think each of seven thoughts on a scale of 1 ("not at all") to 5 ("extremely"). The seven thoughts that participants rated were: (a) "This is awful!" (b) "Everybody goofs up now and then," (c) "In the long run, this really doesn't matter," (d) "I am such a loser," (e) "I wish I could die," (f) "This is sort of funny," and (g) "I should have expected this would happen" (Leary et al., 2007, p. 892). Based on the work of Leary et al. (2007), four factors accounted for 63.5% of the variance after a principal-axis factor analysis was conducted. These factors included catastrophizing (e.g., "This is awful"), personalizing (e.g., "I am such a loser"; "I wish I could die"), equanimity (e.g., "Everybody goofs up now and then"; "In the long run, this doesn't really matter"), and humor (e.g., "This is sort of funny"). Leary et al. summed items that loaded high on each factor (reliabilities for two-item scales ranged from .67 to .79), so the same summation principle was applied to my research.

2.1.3.5.3 Emotions: Total Negative Affect.

With the hypothetical scenario in mind, participants rated how much they would experience 20 feelings, with each feeling representing one of the following emotions: sadness, anxiety, anger, embarrassment, and incompetence (Leary et al., 2007). The 20 feelings that participants rated were: sad, dejected, down, depressed (i.e., sadness); nervous, tense, worried, anxious (i.e., anxiety); angry, irritated, mad, hostile (i.e., anger); embarrassed, humiliated, disgraced, ashamed (i.e., embarrassment); and incompetent, worthless, stupid, self-conscious (i.e., incompetence). Ratings of each feeling were on a

7-point scale, ranging from 1 (“not at all) to 7 (“extremely”). Leary et al. (2007) were able to reveal a single factor based on the summation of the above emotion scales (sadness, anxiety, anger, embarrassment, and incompetence). The single factor based on the five emotion scales was labeled as total negative affect and was used in the current study.

2.1.3.6 Recalled Scenario Responses.

After completing the questions pertaining to the hypothetical scenario, participants were asked to reflect upon a recalled scenario. To apply to a sporting context, the wording of Leary et al.’s (2007) recalled scenario was slightly altered. Leary et al. (2007) asked participants to describe in two or fewer sentences, “the worst thing that has happened during the past four days, that was or was not your fault” (p. 889). However, for my research, participants were asked to recall and describe in two or fewer sentences, “the worst thing that has happened to you in sport during the past year that was or was not your fault”. Subsequently, the participants indicated specifically when the event occurred. Also, they rated how “bad” the event was and “in the big scheme of things, how important was this event to you?” (Leary et al., p. 889, 2007). Ratings are on a scale of 1 (“not at all”) to 6 (“extremely”). Participants also rated (on the same 6-point scale) “the degree to which they were responsible for the event” and “the degree to which other people were responsible for the event” (Leary et al., p. 889). Similar to the hypothetical scenario, questions about reactions, thoughts, and emotions were asked of the participants.

2.1.3.6.1 Reactions.

Utilizing a scale ranging from 1 (“not at all”) to 6 (“extremely”), participants were then asked to rate the degree to which they reacted in each of nine ways: (a) “I tried to be kind to myself,” (b) “I tried to make myself feel better,” (c) “I was really hard on myself,” (d) “I kept the situation in perspective,” (e) “I tried to do things to take my mind off the problem,” (f) “I expressed my emotions to let off steam,” (g) “I took steps to fix the problem or made plans to do so,” (h) “I sought out the company of others,” and (i) “I gave myself time to come to terms with it” (Leary et al., 2007, p. 889). Some of these reactions are related to self-compassion (e.g., “I tried to be kind to myself”), while others are assumed to be independent of self-compassion (e.g., “I wanted to spend time alone”). Similar to Leary et al. individual items were used for data analysis.

2.1.3.6.2 Thoughts.

Participants were asked to indicate the extent to which they thought each of six thoughts about the recalled scenario, on a scale of 1 (“I did not think this thought at all”) to 5 (“I kept thinking this thought”). The thoughts that participants rated were: (a) “I’ve had a really bad day—I need to do something nice for myself,” (b) “I seem to have a bigger problem than most people do,” (c) “In comparison to other people, my life is really screwed up,” (d) “Why do these things always happen to me?” (e) “This isn’t any worse than what lots of other people go through,” and (f) “I’m a loser” (Leary et al., 2007, p. 889).

2.1.3.6.3 Emotions.

For the emotional section of questions, participants rated how they felt in the recalled scenario based on 16 terms pertaining to sadness (sad, dejected, down, depressed), anxiety (nervous, worried, anxious, fearful), anger (irritated, angry, hostile, mad), and self-conscious emotions (embarrassed, humiliated, guilty, ashamed). These ratings were also based on a scale from 1 ("not at all") to 6 ("extremely"). Means of the individual terms within each of the four emotion scales (sadness, anxiety, anger, and self-conscious emotions) were taken to represent each scale.

2.1.4 PROCEDURE

Phase I data was collected online. Initially, participants completed an online consent form (see Appendix M), following ethics approval by the Behavioural Research Ethics Board (Beh-REB) at the University of Saskatchewan. The consent form was provided in a link that was given to those individuals who agreed to participate in the study. Participants under the age of 16 also required a signed parental consent form (see Appendix N) before completing the study. Following consent, participants completed the self-compassion measure (Section 2.1.2.1), the self-esteem measure (Section 2.1.2.2), and the narcissism measure (Section 2.1.2.3), respectively. They were then asked to respond to a series of demographic related questions (Section 2.1.2.4). Thereafter, they were provided with the hypothetical scenario described in Section 2.1.2.5, and asked to respond to questions regarding reactions (Section 2.1.2.5.1), thoughts (Section 2.1.2.5.2), and emotions (Section 2.1.2.5.3) to the scenario. Finally, they did the same with the scenario they recalled, based on the instructions in Section 2.1.2.6, and again responded

to questions pertaining to reactions (Section 2.1.2.6.1), thoughts (Section 2.1.2.5.2), and emotions (Section 2.1.2.6.3), but their responses were to the recalled scenario, in this case.

2.1.5 DATA ANALYSIS

Prior to data analysis, scale and subscale correlations and reliabilities were calculated, as were descriptive statistics. Also, a series of measures were taken prior to analyzing the data, to help prevent misleading data from entering the analysis. Amongst the set of pre-screening procedures were tests for normality, which included skewness and kurtosis. Expected normal probability plots and detrended expected normal probability plots were the methods used to test for normality. This allowed for an expected normal value to be computed and compared with the actual normal value for each case (Tabachnick & Fidell, 2007). Additionally, in multiple regressions, expected and detrended expected normal probability plots were screened for residuals. Linearity and homoscedasticity was assessed through the use of bivariate scatterplots. When choosing a method to deal with missing data, guidelines provided by Tabachnick and Fidell (2007) were utilized, based on the most appropriate option for the given pattern. Some of the potential choices included deleting cases or variables, estimating missing data, and using a missing data correlation matrix. Outliers were also dealt with according to the recommendations of Tabachnick and Fidell (2007).

Assessment of the first hypothesis, which predicted that self-compassion would be positively related to healthy reactions, thoughts, and feelings and negatively related to unhealthy reactions, thoughts, and emotions in young female athletes, based on responses

to emotionally difficult hypothetical sport scenarios, employed a simple Pearson correlation. According to this hypothesis, based on the work of Leary et al. (2007), the Pearson correlation was expected to show that self-compassion is significantly related to the measures of reactions (i.e., behavioural equanimity), thoughts (i.e., catastrophizing, personalizing, equanimity, and humourous), and emotions (total negative affect).

Semi-partial correlation analysis was used to test the second part of the first hypothesis, which predicted unique variance of self-compassion after partialling out self-esteem and narcissism for particular reactions (i.e., behavioural equanimity), thoughts (i.e., personalizing and equanimity, but not catastrophizing and humourous), and emotions (i.e., total negative affect). By partialling out self-esteem and narcissism from self-compassion, a residual was created, comprised exclusively of self-compassion. Essentially, this residual represented a separate variable. It was then correlated with the same reactions (i.e., behavioural equanimity), thoughts (i.e., catastrophizing, personalizing, equanimity, and humourous), and emotions (i.e., total negative affect) as were used in the simple Pearson correlation tests. The direction and strength of the residual relationships was also determined from the same type of coefficients as in the Pearson correlation tests.

Similar to the first hypothesis, the second hypothesis of Phase I was tested using a simple Pearson correlation and semi-partial correlation. The first part of the second hypothesis, regarding whether self-compassion is positively related to healthy reactions, thoughts, and emotions, and negatively related to unhealthy reactions, thoughts, and emotions in young female athletes, based on responses to emotionally difficult recalled sport scenarios, was assessed with a simple Pearson correlation. By administering the

Pearson correlation, I expected to find significant relationships between self-compassion and reactions (i.e., “I tried to be kind to myself”, “I tried to make myself feel better”, “I was really hard on myself”, and “I kept the situation in perspective”), thoughts (i.e., “I seem to have bigger problems than most people do”, “I’m a loser”, “this isn’t any worse than what lots of other people go through”, “why do these things always happen to me?”, “in comparison to other people, my life is really screwed up”), and emotions (i.e., “anxiety”, “self-conscious emotions”, and “sadness”).

The second part of Hypothesis 2 used semi-partial correlation analyses to test whether unique variance was predicted for self-compassion beyond self-esteem and narcissism for particular reactions, thoughts, and emotions. The semi-partial correlation analyses consisted of partialling out the influence of self-esteem and narcissism on self-compassion, allowing a residual variable to be created and correlated with the same reactions, thoughts, and emotions that were assessed in the first part of Hypothesis 2. Also, $p < .05$ was used for all analyses.

2.2 RESULTS – PHASE I

The purpose of Phase I was to determine if young female athletes with higher levels of self-compassion react, think, and feel in more healthy ways when faced with emotionally difficult, hypothetical and recalled, sport-specific situations, than those with lower levels of self-compassion.

2.2.1 Descriptive Statistics and Scale Reliabilities

Descriptive statistics and internal consistency scale reliabilities for the SCS, RSES, and the 40-item NPI are reported in Table 2.6. The majority of scales and subscales had internal consistency values greater than $\alpha = .60$. The two exceptions were Phase I behavioural equanimity ($\alpha = .56$) and Phase II personalizing thoughts ($\alpha = .47$). Also, significant positive correlations were found between: Phase I self-compassion and self-esteem ($r = .655$, $p < .01$), Phase I self-compassion and narcissism ($r = .261$, $p < .01$), and self-esteem and narcissism ($r = .362$, $p < .01$). It should also be noted that there was not a significant correlation between Phase I self-compassion and participants' age ($r = .067$, *n.s.*).

2.2.2 Missing Data and Evaluation of Assumptions

Prior to statistical analysis, the data were cleaned and examined for missing data points. Participants with more than two missing data points per individual subscale were deleted from the data set ($n = 2$), resulting in a final sample size of 101 participants for Phase I. Participants with one or two missing data points from the same subscale were retained and within-person mean substitution was used to estimate the missing value (Tabachnick & Fidell, 2001). In Phase I of my sample, 19 participants were missing one data point on at least one subscale, and 1 participant was missing two data points on at least one subscale. The SCS had 8 data points replaced, the RSES had 1 data point replaced, the NPI had 17 data points replaced, reactions to the hypothetical scenario had 2 data points replaced, emotions regarding the hypothetical scenario had 4 data points replaced, and emotions regarding the recalled scenario had 4 data points replaced. By

Table 2.6 *Descriptive statistics and scale reliabilities for SCS, RSES, NPI, hypothetical scenario responses (behavioural equanimity, thoughts, and total negative affect), and recalled scenario responses (reactions, thoughts, and emotions)*

Variable	# Items	Scale Range[a]	Phase I (N = 101) Mean	(SD)	Reliability α	Phase II (n = 59) Mean	(SD)	Reliability α
SCS	26	6-30*	18.60	(3.52)	.93	18.04	(3.77)	.94
RSES	10	10-40	23.24	(3.56)	.84	--	--	--
NPI	40	40-80	56.06	(6.24)	.82	--	--	--
Behavioural Equanimity (Hypothetical Scenario)	7	7-35	18.70	(3.54)	.56	18.02	(4.15)	.75
Thoughts (Hypothetical Scenario)								
Catastrophizing	1	1-5	4.00	(.89)	--	2.05	(.73)	--
Personalizing	2	1-5	1.73	(.86)	--[b]	1.65	(.83)	--[c]
Equanimity	2	1-5	2.30	(.83)	--[d]	2.47	(.82)	--[e]
Humourous	1	1-5	1.42	(.79)	--	1.25	(.58)	--
Total Negative Affect (Hypothetical Scenario)	20	5-35*	20.71	(5.32)	.93	20.35	(5.38)	.94
Rating the event (Recalled Scenario)								
How "bad" the event was	1	1-6	4.12	(1.15)	--	--	--	--
The degree you were responsible for the event	1	1-6	3.91	(1.60)	--	--	--	--
The degree to which other people were responsible for the event	1	1-6	3.05	(1.50)	--	--	--	--
In the big scheme of things, how important was this event to you?	1	1-6	3.93	(1.51)	--	--	--	--
Reactions (Recalled Scenario)								
I tried to be kind to myself.	1	1-6	3.15	(1.27)	--	--	--	--
I tried to make myself feel better.	1	1-6	3.21	(1.28)	--	--	--	--
I was really hard on myself.	1	1-6	3.60	(1.61)	--	--	--	--
I kept the situation in perspective.	1	1-6	3.47	(1.35)	--	--	--	--
I tried to do things to take my mind off the problem.	1	1-6	3.47	(1.38)	--	--	--	--
I expressed my emotions to let off steam.	1	1-6	3.28	(1.44)	--	--	--	--
I took steps to fix the problem or made plans to do so.	1	1-6	3.39	(1.55)	--	--	--	--
I sought out the company of others.	1	1-6	3.31	(1.50)	--	--	--	--
I have myself time to come to terms with it.	1	1-6	3.40	(1.30)	--	--	--	--

Table continued on next page.

Thoughts (Recalled Scenario)								
I seem to have bigger problems than most people do.	1	1-5	1.86	(1.09)	--	--	--	--
I'm a loser.	1	1-5	1.78	(1.07)	--	--	--	--
This isn't any worse than what lots of other people go through.	1	1-5	2.38	(1.26)	--	--	--	--
Why do these things always happen to me?	1	1-5	2.38	(1.22)	--	--	--	--
In comparison to other people, my life is really screwed up.	1	1-5	1.47	(1.00)	--	--	--	--
Everyone has a bad day now and then.	1	1-5	2.82	(1.22)	--	--	--	--
Emotions (Recalled Scenario)								
Sadness	4	1-6	3.23	(1.29)	.88	--	--	--
Anxiety	4	1-6	2.37	(1.17)	.84	--	--	--
Anger	4	1-6	3.26	(1.30)	.87	--	--	--
Self-Conscious Emotions	4	1-6	2.98	(1.39)	.86	--	--	--

Table 2.6 continued *Note.* [a]Scale Range refers to the lowest and highest possible score on each scale. *SCS* refers to the Self-Compassion Scale. *RSES* refers to the Rosenberg Self-Esteem Scale. *NPI* refers to Narcissistic Personality Inventory.

Note. [b] The correlation between the two personalizing thoughts items at Phase I is $r = .612$, $p < .01$.

Note. [c] The correlation between the two personalizing thoughts items at Phase II is $r = .334$, $p < .01$.

Note. [d] The correlation between the two equanimous thoughts items at Phase I is $r = .455$, $p < .01$.

Note. [e] The correlation between the two equanimous thoughts items at Phase II is $r = .544$, $p < .01$.

*Refers to a summation of subscales.

Note. Catastrophizing Thoughts (hypothetical scenario), Humourous Thoughts (hypothetical scenario), all ratings of the recalled scenario, all reactions to the recalled scenario, and all thoughts regarding the recalled scenario are single items. Internal consistency values cannot be calculated for single item scales.

using a conservative within-person substitution approach to mean data replacement, the mean for a distribution as a whole is not expected to change (Tabachnick & Fidell, 2001).

The data were also examined for violations of normality, prior to statistical analysis. The majority of scales and subscales were normally distributed (see Table 2.7), including the SCS, RSES, and NPI, along with Behavioural Equanimity (hypothetical scenario), Total Negative Affect (hypothetical scenario), Sadness (recalled scenario), Anger (recalled scenario), and Self-Conscious Emotions (recalled scenario). Violations of normality were frequently present in hypothetical scenario thought subscales (i.e., catastrophizing, personalizing, equanimity, and humourous), several thoughts about the recalled scenario, and the "anxiety" subscale of the recalled scenario. Of the non-parametric distributions, all but one were positively skewed. Adhering to the recommendations of Tabachnick and Fidell (2001), distributions of the non-parametric scales, subscales, and individual items were normalized using square root, logarithmic, and inverse transformations, as necessary to normalize the distribution. To explore the potential impact of variable transformations, a correlation matrix with transformed and untransformed variables was produced. In comparing correlations among all transformed variables with self-compassion, none of the transformations resulted in a change of significance or non-significance in comparison to the non-transformed variables, so non-transformed scale values were subsequently used in all analyses.

Outliers in the data set were identified as standard scores greater than +/-3.29 standard deviations above or below the mean on any of the scales and subscales, as suggested by Tabachnick and Fidell (2001). There were 8 outliers in the data set. However, 7 of the 8 outliers were single item thoughts, and the other outlier was from a

Table 2.7 *Skewness and Kurtosis Information for all Phase I Scales and Subscales*

Variable	$Z_{skewness}$ Phase I (N = 101) *Std. error = 0.240*	$Z_{kurtosis}$ Phase I (N = 101) *Std. error = 0.476*
SCS	0.37	-1.66
RSES	-0.01	-0.90
NPI	1.35	-1.42
Behavioural Equanimity (Hypothetical Scenario)	-0.57	-0.82
Thoughts (Hypothetical Scenario		
Catastrophizing	-3.56*	2.15*
Personalizing	5.88*	4.11*
Equanimity	2.13*	-0.58
Humourous	8.14*	7.80*
Total Negative Affect (Hypothetical Scenario)	-1.96	-0.87
Reactions (Recalled Scenario)		
I tried to be kind to myself.	-0.63	-1.43
I tried to make myself feel better.	0.18	-0.95
I was really hard on myself.	-0.74	-2.67*
I kept the situation in perspective.	0.94	-1.64
I tried to do things to take my mind off the problem.	-0.77	-1.85
I expressed my emotions to let off steam.	0.55	-2.09*
I took steps to fix the problem or made plans to do so.	-0.13	-2.14*
I sought out the company of others.	0.53	-1.89
I gave myself time to come to terms with it.	-0.08	-1.05
Thoughts (Recalled Scenario)		
I seem to have bigger problems than most people do.	4.55*	0.84
I'm a loser.	4.55*	-0.07
This isn't any worse than what lots of other people go through.	1.39	-2.42*
Why do these things always happen to me?	2.40*	-1.25
In comparison to other people, my life is really screwed up.	9.84*	10.54*
Everyone has a bad day now and then.	0.47	-1.84
Emotions (Recalled Scenario)		
Sadness	0.56	-1.57
Anxiety	4.16*	1.29
Anger	-0.09	-1.91
Self-Conscious Emotions	1.17	-1.90

Note. Skewness and kurtosis values were divided by their standard error to obtain a *z*-value, as recommended by Tabachnick and Fidell (2001). Resulting values of +/- 1.96 were determined as being significantly skewed or kurtotic and are marked by asterisks. *SCS* refers to Self-Compassion Scale. *RSES* refers to Rosenberg Self-Esteem Scale. *NPI* refers to Narcissistic Personality Inventory.

two-item thought subscale. Given the small number of items on these scales, along with the likert-scale format of the items and the fact that transformations did not result in any significant changes in correlations, the decision was made to not remove any outliers.

2.2.3 Tests of Hypotheses

2.2.3.1 Hypothesis 1

The first hypothesis predicted that self-compassion would be positively related to healthy reactions (i.e., behavioural equanimity) and thoughts (i.e., equanimity and humourous), while negatively related to unhealthy thoughts (i.e., catastrophizing and personalizing) and emotions (i.e., total negative affect) in young female athletes responding to an emotionally difficult *hypothetical* sport-specific situation. The results (see Table 2.8) were mostly supportive of this first hypothesis, indicating that self-compassion was positively related to equanimous thoughts ($r = .311$, $p < .01$) and behavioural equanimity ($r = .348$, $p < .01$) and negatively related to catastrophizing thoughts ($r = -.306$, $p < .01$), personalizing thoughts ($r = -.508$, $p < .01$), and total negative affect ($r = -.539$, $p < .01$).

2.2.3.2 Hypothesis 1a

In the second part of my first hypothesis, I predicted that self-compassion would remain significantly correlated to reactions (i.e., behavioural equanimity), particular thoughts (i.e., personalizing and equanimity), and emotions (i.e., total negative affect),

after semi-partialling out self-esteem and narcissism in the emotionally difficult *hypothetical* sport-specific situation[7].

The results partially supported this hypothesis (see Table 2.8), as self-compassion remained significantly correlated to behavioural equanimity (r = .280, p < .01), personalizing thoughts (r = -.318, p < .01) and total negative affect (r = -.399, p < .01), after semi-partialling out self-esteem and narcissism. Additionally, self-compassion was significantly correlated to catastrophizing thoughts (r = -.303, p < .01), after semi-partialling out self-esteem and narcissism, which was not hypothesized, but is also not unexpected, given the negative correlation. However, self-compassion did not remain significantly correlated to equanimous thoughts after the semi-partial correlation, which does not support the second part of the first hypothesis.

2.2.3.3 Hypothesis 2

The second hypothesis of Phase I predicted that self-compassion would be positively related to healthy reactions (i.e., "I tried to be kind to myself", I tried to make myself feel better", and "I kept the situation in perspective") and thoughts (i.e., "This isn't any worse than what lots of other people go through"), and negatively related to unhealthy reactions (i.e., "I was really hard on myself"), thoughts (i.e., "I seem to have bigger problems than most people do", "I'm a loser", "Why do these things always happen to me?", and "In comparison to other people, my life is really screwed up"), and emotions (i.e., "anxiety", "self-conscious emotions", and "sadness") in young female athletes responding to an emotionally difficult *recalled* sport-specific situation.

[7] No prediction was made in my hypothesis about a correlation between two particular thoughts to the hypothetical situation (i.e., catastrophizing and humourous) and self-compassion, but the findings of Leary et al. (2007) indicated no relationship between either thought and self-compassion.

Table 2.8 *Relationships between Self-Compassion, Self-Esteem, and Narcissism for Hypothetical Scenario*

	Phase I – Lost Game for Team (N = 101)		
Variable	SCS	RSES	NPI
Total Negative Affect	-.539**	-.368**	-.019
	-.399**	-.055	.136
Thought			
Catastrophizing	-.306**	-.122	.056
	-.303**	.069	.118
Personalizing	-.508**	-.415**	-.024
	-.318**	-.143	.146
Equanimity	.311**	.294**	.156
	.155	.103	.048
Humourous	.014	-.096	.020
	.099	-.148	.056
Behavioural Equanimity	.348**	.209*	.047
	.280**	-.014	-.040

Note. The upper number in each cell is the Pearson correlation. The lower number is the semipartial correlation with the influence of the other two predictors removed. Significant semipartial correlations are presented in boldface type. SCS = self-compassion; RSES = self-esteem; NPI = narcissism.
*$p < .05$. **$p < .01$.

Supporting this hypothesis (see Table 2.9), self-compassion was positively related to the following healthy reactions: “I tried to be kind to myself” (r = .446, p < .01), “I tried to make myself feel better” (r = .392, p < .01), and “I kept the situation in perspective” (r = .251, p < .05). Positive relationships between self-compassion and the healthy thought “This isn’t any worse than what lots of other people go through” (r = .231, p < .05) also supports the hypothesis.

Results showing a negative correlation between self-compassion and unhealthy reactions, thoughts, and emotions were generally supportive of the second hypothesis as well. The unhealthy reaction that displayed a negative correlation with self-compassion was, “I was really hard on myself” (r = -.318, p < .01). Several unhealthy thoughts were negatively related with self-compassion including: “I seem to have bigger problems than most people do” (r = -.338, p < .01), “I’m a loser” (r = -.425, p < .01), “Why do these things always happen to me?” (r = -.255, p < .05), and “In comparison to other people, my life is really screwed up” (r = -.326, p < .01). Also, the correlations between self-compassion and the emotion subscales “sadness” (r = -.407, p < .01), “anxiety” (r = -.433, p < .01), and “self-conscious emotions” (r = -.539, p < .01) also supported the second hypothesis.

While not predicted, self-compassion was positively correlated to the healthy reactions, “I sought out the company of others” (r = .228, p < .05), and “I gave myself time to come to terms with it” (r = .290, p < .01), and the healthy thought, “Everyone has a bad day now and then” (r = .258, p < .01). Also, self-compassion was negatively correlated to the emotion, “anger” (r = -.439, p < .01).

Table 2.9 *Relationships between Self-Compassion, Self-Esteem, and Narcissism for Recalled Scenario*

Variable			
Reaction	SCS	RSES	NPI
I tried to be kind to myself.	.446**	.251*	.010
	.375**	-.026	-.100
I tried to make myself feel better.	.392**	.249*	-.008
	.307**	.020	-.115
I was really hard on myself.	-.318**	-.197*	.065
	-.255**	-.026	.156
I kept the situation in perspective.	.251*	.208*	-.052
	.157	.093	-.141
I tried to do things to take my mind off the problem.	.124	.057	-.001
	.115	-.024	-.027
I expressed my emotions to let off steam.	.051	.104	.242*
	-.030	.032	**.221***
I took steps to fix the problem or made plans to do so.	.070	.072	.319**
	.019	-.049	**.313****
I sought out the company of others.	.228*	.188	.202*
	.134	.013	.139
I gave myself time to come to terms with it.	.290**	.079	.278**
	.306**	**-.209***	**.257****
Thought	SCS	RSES	NPI
I seem to have bigger problems than most people do.	-.338**	-.255*	.120
	-.234*	-.105	**.235***
I'm a loser.	-.425**	-.365**	.002
	-.251*	-.151	.153
This isn't any worse than what lots of other people go through.	.231*	.125	.029
	.198*	-.027	-.024
Why do these things always happen to me?	-.255*	-.218*	-.039
	-.150	-.078	.048
In comparison to other people, my life is really screwed up.	-.326**	-.229*	.161
	-.243*	-.090	**.270****
Everyone has a bad day now and then.	.258**	.120	-.014
	.240*	-.044	-.070
Emotion	SCS	RSES	NPI
Sadness	-.407**	-.268**	-.037
	-.309**	-.021	.074
Anxiety	-.433**	-.316**	.235*
	-.312**	-.142	**.385****
Anger	-.439**	-.283**	.052
	-.341**	-.040	.177
Self-Conscious Emotions	-.539**	-.273**	.033
	-.481**	.060	.158

Note. The upper number in each cell is the Pearson correlation. The lower number is the semipartial correlation with the influence of the other two predictors removed. Significant semipartial correlations are presented in boldface type. *SCS* = self-compassion; *RSES* = self-esteem; *NPI* = narcissism.
*$p < .05$ **$p < .01$

2.2.3.4 Hypothesis 2a

The second part of Hypothesis 2 in Phase I stated that self-compassion should remain significantly correlated to particular reactions (i.e., "I tried to be kind to myself", "I tried to make myself feel better", "I was really hard on myself", and "I kept the situation in perspective"), thoughts (i.e., "I seem to have bigger problems than most people do", "I'm a loser", "This isn't any worse than what lots of other people go through", "Why do these things always happen to me?", and "In comparison to other people, my life is really screwed up"), and emotion subscales (i.e., sadness, anxiety, and self-conscious emotions), after semi-partialling out self-esteem and narcissism.

The results supported most components of the hypothesis (see Table 2.9), as self-compassion did remain significantly correlated to the following reactions for the semi-partial correlations: "I tried to be kind to myself" (r = .375, p < .01), "I tried to make myself feel better" (r = .307, p < .01), and "I was really hard on myself" (r = -.255, p < .01). Also supporting the second part of the second hypothesis were results showing that self-compassion was significantly correlated to the following thoughts after semi-partialling out self-esteem and narcissism: "I seem to have bigger problems than most people do" (r = -.234, p < .05), "I'm a loser" (r = -.251, p < .05), "This isn't any worse than what lots of other people go through" (r = .198, p < .05), and "In comparison to other people, my life is really screwed up" (r = -.243, p < .05). Further support for the hypothesis were findings indicating that self-compassion remained significantly correlated to the emotion subscales "sadness" (r = -.309, p < .01), "anxiety" (r = -.312, p < .01), and "self-conscious emotions" (r = -.481, p < .01), after semi-partialling out self-esteem and narcissism.

However, self-compassion was no longer significantly correlated to the reaction, "I kept the situation in perspective" or the thought "Why do these things always happen to me?" after the semi-partial correlation, which is not supportive of the hypothesis. Although self-compassion was not hypothesized to be significantly correlated to the reaction, "I gave myself time to come to terms with it" ($r = .306$, $p < .01$), the thought "Everyone has a bad day now and then" ($r = .240$, $p < .05$), and the emotion subscale "anger" ($r = -.341$, $p < .01$), after semi-partialling out self-esteem and narcissism, the results showed self-compassion remained significantly correlated to each.

2.2.4 Summary of Results

Table 2.10 outlines the Phase I hypotheses and displays a summary of findings. In Phase I, Hypothesis 1 had 5 of 6 predicted correlations supported, and Hypothesis 1a had 3 of 4 predicted semi-partial correlations supported. Hypothesis 2 had 4 of 4 predicted correlations supported for reactions to the recalled scenario, 5 of 5 predicted correlations supported for thoughts to the recalled scenario, and 3 of 3 predicted correlations supported for emotion subscales. Hypothesis 2a predicted 4 semi-partial correlations for reactions to the recalled scenario, 3 of which were supported. Also, Hypothesis 2a had 4 of 5 predicted semi-partial correlations for thoughts to the recalled scenario, and 3 of 3 semi-partial correlations for emotion subscales supported. In summary, 30 of my 34 hypotheses were supported by the results.

Table 2.10 *Hypothesis Testing Summary Table*

Variable	SCS		Note
	Correlation	Semi-Partial Correlation	
Total Negative Affect (Hypothetical Scenario)	- (✓)	- (✓)	
Thoughts (Hypothetical Scenario)			
Catastrophizing	- (✓)	?	Negative correlation; no significant semi-partial correlation
Personalizing	- (✓)	- (✓)	
Equanimity	+ (✓)	+ (✗)	Positive correlation; no significant semi-partial correlation
Humourous	+ (✗)	?	No significant correlation or semi-partial correlation
Behavioural Equanimity (Hypothetical Scenario)	+ (✓)	+ (✓)	
Reactions (Recalled Scenario)			
I tried to be kind to myself.	+ (✓)	+ (✓)	
I tried to make myself feel better.	+ (✓)	+ (✓)	
I was really hard on myself.	- (✓)	- (✓)	
I kept the situation in perspective.	+ (✓)	+ (✗)	Positive correlation; no significant semi-partial correlation
I tried to do things to take my mind off the problem.	?	?	No significant correlation or semi-partial correlation
I expressed my emotions to let off steam.	?	?	No significant correlation or semi-partial correlation
I took steps to fix the problem or made plans to do so.	?	?	No significant correlation or semi-partial correlation
I sought out the company of others.	? (+)	?	Positive correlation; no significant semi-partial correlation
I gave myself time to come to terms with it.	? (+)	? (+)	Positive correlation and positive semi-partial correlation
Thoughts (Recalled Scenario)			
I seem to have bigger problems than most people do.	- (✓)	- (✓)	
I'm a loser.	- (✓)	- (✓)	
This isn't any worse than what lots of other people go through.	+ (✓)	+ (✓)	
Why do these things always happen to me?	- (✓)	- (✗)	Negative correlation; no significant semi-partial correlation
In comparison to other people, my life is really screwed up.	- (✓)	- (✓)	
Everyone has a bad day now and then.	? (+)	? (+)	Positive correlation and positive semi-partial correlation
Emotions (Recalled Scenario)			
Sadness	- (✓)	- (✓)	
Anxiety	- (✓)	- (✓)	
Anger	? (-)	? (-)	Negative correlation and negative semi-partial correlation
Self-Conscious Emotions	- (✓)	- (✓)	

Note. - (✓) = hypothesized negative correlation confirmed in results; + (✓) = hypothesized positive correlation confirmed in results; ? = no significant correlation hypothesized and no significant correlation found in results; + (✗) = positive correlation hypothesized, but no significant findings in results; - (✗) = positive correlation hypothesized, but no significant findings in results; ? (+) = no significant correlation hypothesized, but positive correlation found in results; ? (-) = no significant correlation hypothesized, but positive correlation found in results.

CHAPTER 3

3.1 PHASE II

3.1.1 HYPOTHESES OF PHASE II

1. Individuals in the self-compassion (and self-esteem) induction condition will have healthier reactions, thoughts, and feelings in response to the hypothetical, sport-specific situation following the induction, compared to their responses in Phase I.
2. Individuals in the self-compassion induction condition will have more healthy reactions, thoughts, and feelings than those in the self-esteem and control groups.

3.1.2 PARTICIPANTS

Volunteering from the pool of 101 young female athletes between 14 and 25 years of age who completed Phase I, 59 participated in Phase II (see Tables 3.1 to 3.5).

3.1.3 DESIGN & PROCEDURE

A follow-up e-mail was sent out to all participants 1 month after they completed Phase I. The e-mail included an option to attend Phase II of my study. Approximately 2 months after completing Phase I, participants who chose to partake in Phase II reported individually to the Sport Psychology Laboratory at the University of Saskatchewan. They were greeted by a female research assistant upon reporting to the lab, and randomly assigned based on the order in which they came, using a random number table, into one of the following groups: self-compassion induction (n = 21), self-esteem induction (n = 20), or writing task control group (n = 18). It should be noted that the participants were

Table 3.1

Phase II participant age, height, and weight information

	n	Reported Range	*M*	*SD*
Age	59	14-25	20.54	2.64
Height	59	152.4-188.0cm	169.3cm	7.1cm
Age 14	1	165.1-165.1cm	165.1cm	n/a
Age 15	3	160.0-170.2cm	166.4cm	5.5cm
Age 16	1	180.3-180.3cm	180.3cm	n/a
Age 17	5	167.6-175.3cm	170.2cm	3.1cm
Age 18	3	162.6-165.1cm	163.4cm	1.5cm
Age 19	5	162.6-180.3cm	168.7cm	6.9cm
Age 20	5	152.4-177.8cm	168.1cm	10.1cm
Age 21	8	160.0-180.3cm	168.6cm	6.2cm
Age 22	15	157.5-181.0cm	169.5cm	7.0cm
Age 23	9	157.5-188.0cm	173.6cm	9.4cm
Age 24	2	160.0-167.6cm	163.8cm	5.4cm
Age 25	2	167.6-167.6cm	167.6cm	0.0cm
Weight	58	47.6-90.7kg	62.8kg	9.2kg
Age 14	-	-	-	-
Age 15	3	48.1-56.7kg	52.9kg	4.4kg
Age 16	1	70.3-70.3kg	70.3kg	n/a
Age 17	5	54.0-70.8kg	62.1kg	6.4kg
Age 18	3	49.9-56.7kg	53.4kg	3.4kg
Age 19	5	52.2-77.1kg	61.3kg	10.1kg
Age 20	5	49.9-77.1kg	65.9kg	11.3kg
Age 21	8	47.6-77.1kg	61.8kg	8.0kg
Age 22	15	52.2-77.8kg	65.5kg	8.5kg
Age 23	9	55.3-90.7kg	67.1kg	11.2kg
Age 24	2	60.8-63.5kg	62.1kg	1.9kg
Age 25	2	48.5-52.9kg	50.7kg	3.1kg

Note. Height and weight data was self-reported.

Table 3.2

Phase II participant sociocultural information

Sociocultural Information	*n*	%
Aboriginal	4	6.8
Asian (not specified)	2	3.4
Black (not specified)	1	1.7
Caucasian/White	53	89.8
Chinese	2	3.4
Japanese	1	1.7
Latin American	1	1.7

Note. Participants could identify as belonging to more than one sociocultural category.

Table 3.3

Phase II frequencies of participant club sport involvement by level

Sport	Recreational	Local	Provincial	Regional	National	International I	International II
Badminton	1	2					
Baseball							
Basketball	8	6	5	4	6		
Beach Volleyball	1				1		
Boxing							
Cheerleading		1	2	2	2	2	
Cross Country Running	1	4	2	2	1		
Curling	1						
Dance			2				
Fastball							
Field Hockey							
Floor Hockey	3						
Football	7	1	1	3			
Golf	1	1					
Gymnastics							
Hockey							1
Marathon Running	2	1			1	1	
Martial Arts	1						
Ringette				1			
Rock Climbing			1				
Rowing					1		
Rugby	1						
Running	1	1					
Slow Pitch	5	1					
Soccer	6	5	7	6	7	1	2
Softball		1	1	1	1	1	
Snowboarding	1						
Swimming	1		1				
Track & Field	2	8	8	8	7	1	
Triathlon	1						
Ultimate Frisbee	3	2					
Volleyball	9	6	2		2		

Note. All sports are listed in alphabetical order. *Recreational* refers to competing in intramurals or in a recreational league. *Local* refers to competing against athletes from around the city/town. *Provincial* refers to competing against athletes from around the province. *Regional* refers to competing against athletes from nearby provinces. *National* refers to competing at a National Championship. *International I* refers to competing against athletes from another country. *International II* refers to being a member of a national team (i.e., representing/represented Canada). Note that the majority of participants participated in a number of sports at a variety of levels, and therefore totals in each column will not equal the number of participants (N = 59).

Table 3.4

Phase II participant parental education level information

	Father		Mother	
Highest education level attained	*n*	%	*n*	%
Did not finish high school	4	6.8	0	0
Completed high school	8	13.6	5	8.5
Some education after high school	7	11.9	8	13.6
Graduated from college or university	40	67.8	45	76.3
Unknown	0	0	0	0
Unreported	0	0	1	1.7

Table 3.5

Phase II participant sport involvement in past week

Sport participation in past week	*n*	%
Not at all	6	10.2
Once or twice	20	33.9
Three or four times	15	25.4
Five or more times	18	30.5

not told which of the inductions they would receive, nor was the research assistant aware of participant induction group assignment (i.e., double blind). Participants were initially given a sheet of paper, reminding them of the hypothetical scenario presented in Phase I (i.e., "being responsible for losing an athletic competition for their team"). Directly below the hypothetical scenario on the same sheet of paper, the assigned induction was provided (see Sections 3.1.3.1, 3.1.3.2, and 3.1.3.3), and participants were instructed to follow the prompt(s), keeping the scenario in mind. After completing the prompts and writing tasks associated with each induction, participants were asked to notify the research assistant, who then provided them with a laptop computer. On the computer was an online survey, with some of the same measures provided in the Phase I survey. Specifically, participants were first asked to respond to the same series of questions pertaining to reactions, thoughts, and emotions about the hypothetical scenario, before once again completing the SCS. Upon the completion of their responses to the questions, participants were debriefed and given a $10 gift card at their choice of Midtown Plaza or Starbuck's as a token of compensation for their time. At that point, they were informed that their participation was complete.

3.1.3.1 Self-Compassion Induction

Individuals assigned to the self-compassion condition responded to three prompts, based on the three major components of self-compassion: common humanity, self-kindness, and mindfulness (Leary et al., 2007). This was designed to make participants think about the hypothetical event in a self-compassionate manner. To address the common humanity element of self-compassion, participants were asked to "list ways in

which other people also experience similar events" (Leary et al., 2007, p. 899). Focusing on the self-kindness component, participants were asked to "write a paragraph expressing the understanding, kindness, and concern to themselves in the same way that they might express concern to a friend who had undergone the experience" (Leary et al., 2007, p. 899). Finally, participants were instructed to "describe their feelings about the event in an objective and unemotional fashion" (Leary et al., 2007, p. 899) in order to induce the mindfulness aspect of self-compassion.

3.1.3.2 Self-Esteem Induction

Similar to how the self-compassion induction was intended to induce self-compassion, the self-esteem induction was designed to encourage participants to experience elements of self-esteem. In this case, the prompts were meant to make the individuals feel good about themselves. The first of three prompts instructed participants to "write down your positive characteristics—indications that you are competent and valuable" (Leary et al., 2007, p. 899). Secondly, participants were asked to write a paragraph explaining how what happened in the hypothetical scenario "was not entirely their fault and to interpret the event in a way that made them feel better about themselves" (Leary et al., 2007, p. 899). Finally, they were asked to "describe why the event does not really indicate anything about the kind of person you are" (Leary et al., 2007, p. 899).

3.1.3.3 Control Condition: Writing Control Task

Participants in this group did not undergo an induction, and were instead presented with a prompt instructing them to "really let go and explore their deepest emotions" whilst writing about the hypothetical scenario (Leary et al., 2007, p. 900). They were then given the same set of online dependent measures as participants from the self-compassion induction group and the self-esteem induction group.

3.1.3.4 Dependent Measures

With the intention to replicate the hypothetical scenario of Phase I, and determine how participants respond following the induction phase, the same questions were asked regarding the scenario "being responsible for losing an athletic competition for your team". Thus, for questions pertaining to reactions to the hypothetical scenario, see Section 2.1.3.5.1; for thoughts, see Section 2.1.3.5.2; and for emotions, see Section 2.1.3.5.3.

3.1.4 DATA ANALYSIS

The data cleaning procedures and testing of assumptions of analysis were similar to Phase I (see section 2.1.5).

3.1.4.1 Hypothesis 1

The first hypothesis in Phase II predicted that individuals who have either the self-compassion or self-esteem induction would have healthier reactions, thoughts, and emotions in response to the hypothetical, emotionally difficult, sport-specific scenario, following the induction than they did in Phase I. To assess this hypothesis, univariate t-

tests were run to determine if and where reactions, thoughts, and emotions were different at Phase II than at Phase I. A bonferroni type adjustment (Tabachnik & Fidell, 2001) was made for inflated Type I error, due to having multiple dependent variables. Because of the inflated error rate, the α-level was set at .008 for this analysis.

3.1.4.2 Hypothesis 2

The second hypothesis in Phase II stated that individuals receiving the self-compassion induction will have greater improvements than those in the self-esteem and control groups, in response to the hypothetical, emotionally difficult, sport-specific scenario presented in Phase I. Because of repeated measures and multiple dependent variables (Schutz & Gessaroli, 1987) being assessed in more than one group (self-compassion induction group, self-esteem induction group, control group), doubly multivariate analyses were used to determine if there was an effect across interventions. In this case, the multiple dependent variables were the reactions, thoughts, and feelings. Repeated measures were present in the analysis because responses to the same hypothetical scenario were compared at two different time points. The first time point was the responses given from the hypothetical scenario at Phase I, and the second was the responses to the same hypothetical scenario, following the induction in Phase II.

By using the results of the doubly multivariate analysis, I was able to determine if there were any induction effects or any interaction effects between groups (self-compassion induction group, self-esteem induction group, and control group) and time (Phase I and Phase II). A second doubly multivariate analysis was also run, controlling

for initial levels of self-compassion, self-esteem, and narcissism, to deal with any potential effects that baseline levels of each might have on the results.

3.2 RESULTS – PHASE II

The purpose of Phase II was to determine if a self-compassion induction could lead to more healthy reactions, thoughts, and feelings in response to the hypothetical, emotionally difficult, sport-specific situation presented in Phase I.

3.2.1 Scale Reliabilities and Descriptive Statistics

Section 2.2.1 and Table 2.6 provide a summary of both Phase I and Phase II scale reliabilities and descriptive statistics.

3.2.2 Missing Data and Evaluation of Assumptions

As described in Section 2.2.2, the process of dealing with missing data and evaluation of assumptions adhered to the recommendations of Tabachnik and Fidell (2001). In Phase II of my sample, 14 participants were missing one data point on at least one subscale, and 2 participants were missing two data points on at least one subscale. The SCS had 16 data points replaced, thoughts regarding the hypothetical scenario had 2 items replaced, and emotions regarding the hypothetical scenario had 12 items replaced.

The data were examined for violations of normality (see Section 2.2.2). The SCS, behavioural equanimity (hypothetical scenario), catastrophizing thoughts (hypothetical scenario), and total negative affect (hypothetical scenario) were all normally distributed (see Table 3.6). However, violations of normality were present in personalizing thoughts

Table 3.6 *Skewness and Kurtosis Information for all Phase II Scales and Subscales*

Variable	$Z_{skewness}$ Phase II (n = 59) *Std. error = 0.311*	$Z_{kurtosis}$ Phase II (n = 59) *Std. error = 0.613*
SCS	-0.56	-0.96
Behavioural Equanimity (Hypothetical Scenario)	0.42	-0.37
Thoughts (Hypothetical Scenario		
Catastrophizing	0.63	-0.56
Personalizing	3.93*	1.15
Equanimity	2.43*	0.31
Humourous	7.06*	6.11*
Total Negative Affect (Hypothetical Scenario	-0.50	-1.07

Note. Skewness and kurtosis values were divided by their standard error to obtain a *z*-value, as recommended by Tabachnick and Fidell (2001). Resulting values of +/- 1.96 are determined as being significantly skewed or kurtotic and are marked by asterisks. *SCS* refers to Self-Compassion Scale.

hypothetical scenario), equanimous thoughts (hypothetical scenario) and humourous thoughts (hypothetical scenario). There were 3 non-parametric distributions in total, all of which were positively skewed. Distributions of the non-parametric subscales and individual items were normalized using square root, logarithmic, and inverse transformations, as necessary. As in Phase I, none of the transformations provided changes to correlation significance, so original values were kept in all cases[8]. In addition, there were no outliers in Phase II of my study.

3.2.3 Tests of Hypotheses

3.2.3.1 Hypothesis 1

The first hypothesis of Phase II predicted that individuals in the self-compassion (and self-esteem) induction conditions would have healthier reactions, thoughts, and feelings in response to the hypothetical, sport-specific situation following the induction, compared to their responses in Phase I. Based on the results of univariate t-tests, the hypothesis was partially supported (See Table 3.7), as there was a "time" effect for several variables. Specifically, individuals who were in the self-compassion induction group had significantly less catastrophizing thoughts, $t(20) = 9.63$, $p < .008$, $d = 2.10$ and significantly more equanimous thoughts, $t(20) = -3.83$, $p < .008$, $d = .84$ following the induction (Phase II) than prior to it (Phase I). Also, individuals who were in the self-

[8] *As noted in Section 2.2.2: "To explore the potential impact of variable transformations, a correlation matrix with transformed and untransformed variables was produced. In comparing correlations among all transformed variables with self-compassion, none of the transformations resulted in a change of significance or non-significance in comparison to the non-transformed variables, so non-transformed scale values were subsequently used in all analyses."

Table 3.7 *Means for induction groups at Phase I and Phase II for behavioural equanimity, thoughts (catastrophizing, personalizing, equanimity, and humourous), and total negative affect in response to the hypothetical scenario*

Dependent Variable	Induction Group	Phase I (n = 59) Mean (SD)	Phase II (n = 59) Mean (SD)
Behavioural Equanimity	Self-Compassion (n = 21)	17.00 (2.79)	17.19 (3.64)
	Self-Esteem (n = 20)	19.35 (4.13)	20.15 (3.95)
	Writing Control (n = 18)	18.28 (3.98)	16.61 (4.17)
Thoughts			
Catastrophizing	Self-Compassion (n = 21)	4.24* (.70)	1.90* (.70)
	Self-Esteem (n = 20)	3.90* (1.17)	2.40* (.75)
	Writing Control (n = 18)	4.17* (.71)	1.83* (.62)
Personalizing	Self-Compassion (n = 21)	1.79 (.77)	1.57 (.68)
	Self-Esteem (n = 20)	1.75 (1.22)	1.35 (.63)
	Writing Control (n = 18)	1.97 (.78)	2.08 (1.02)
Equanimity	Self-Compassion (n = 21)	2.02* (.78)	2.64* (.81)
	Self-Esteem (n = 20)	2.18 (.83)	2.48 (.79)
	Writing Control (n = 18)	1.94 (.54)	2.25 (.88)
Humourous	Self-Compassion (n = 21)	1.10 (.44)	1.24 (.62)
	Self-Esteem (n = 20)	1.10 (.45)	1.20 (.52)
	Writing Control (n = 18)	1.39 (.70)	1.33 (.59)
Total Negative Affect	Self-Compassion (n = 21)	21.44 (4.08)	20.12 (5.36)
	Self-Esteem (n = 20)	20.63 (5.29)	18.65 (5.19)
	Writing Control (n = 18)	22.67 (4.94)	22.50 (5.16)

*significant mean difference between Phase I and Phase II ($p < .008$).

esteem induction group had significantly less catastrophizing thoughts $t(19) = 4.09$, $p < .008$, $d = .92$ post-induction. Finally, though it was not predicted, individuals in the writing control group had significantly less catastrophizing thoughts $t(17) = 9.13$, $p < .008$, $d = 2.15$ following the writing task.

3.2.3.2 Hypothesis 2

The second hypothesis of Phase II stated that individuals in the self-compassion induction condition would have more healthy reactions, thoughts, and feelings than those in the self-esteem and control groups. A doubly multivariate analysis showed a significant "time" effect, as the grand mean across all induction groups was different at Phase I compared to Phase II, Wilks' Lambda = .25, $F(6, 51) = 25.88$, $p < .05$, $\eta_p^2 = .753$. Follow-up univariate analysis indicated that there was a significant time effect on total negative affect, $F(1, 56) = 4.67$, $p < .05$, $\eta_p^2 = .077$; catastrophizing thoughts, $F(1, 56) = 145.32$, $p < .05$, $\eta_p^2 = .722$; and equanimous thoughts, $F(1, 56) = 13.63$, $p < .05$, $\eta_p^2 = .196$. Total negative affect and catastrophizing thoughts decreased following the induction, while equanimous thoughts increased. The doubly multivariate analysis showed no significant effects for induction, Wilks' Lambda = .67, $F(12, 102) = 1.86$, *n.s.*[9] or group (induction) by time (phase) interaction, Wilks' Lambda = .73, $F(12, 102) = 1.44$, *n.s.*

A second doubly multivariate analysis was run controlling for initial levels of self-compassion, self-esteem, and narcissism. There were no significant effects for: induction, Wilks' Lambda = .69, $F(12, 96) = 1.66$, *n.s.*; time, Wilks' Lambda = .87, $F(6, 48) = 1.22$, *n.s.*; or group by time interaction, Wilks' Lambda = .75, $F(12, 96) = 1.27$, *n.s.*

[9] Technically, the *p*-value is < .05 at .048, but it rounds off to .05, so it will be regarded as non-significant.

Subsequent to the doubly multivariate analyses, post-hoc hierarchical regression analyses were run as an alternative way to explore the potential effects of initial levels of self-compassion and the self-compassion induction, particularly beyond the influence of self-esteem (see Table 3.8) This analysis is similar to the analysis used by Leary et al. (2007). Self-esteem was entered on Step 1, followed by induction at Step 2, self-compassion (zero-centered) at Step 3, and the induction by self-compassion interaction at Step 4. Since Step 4 produced no significant results, it is not shown in Table 3.8. The results showed that self-esteem was significant at Step 1 for behavioural equanimity, personalizing thoughts, equanimous thoughts, and total negative affect. When induction and self-compassion were entered at steps 2 and 3, respectively, self-compassion (baseline) emerged as the only significant predictor of behavioural equanimity, personalizing thoughts, and total negative affect[10].

[10] I conducted post-hoc analyses, including a step with mean-centered self-compassion x mean-centered self-esteem x induction interaction. See Appendix O for the results and description.

Table 3.8 *Follow-up Hierarchical Regression Analysis*

Criterion Variable	B	SE B	β	R^2	ΔR^2
Behavioural Equanimity					
Step 1				.143**	.143**
Self-Esteem	.472	.153	.378**		
Step 2				.145	.003
Self-Esteem	.488	.159	.390**		
Induction	.269	.645	.053		
Step 3				.252*	.107*
Self-Esteem	.134	.196	.107		
Induction	.214	.609	.042		
Self-Compassion	.505	.180	.431**		
Thoughts					
Catastrophizing					
Step 1				.011	.011
Self-Esteem	.023	.029	.105		
Step 2				.011	.000
Self-Esteem	.023	.030	.105		
Induction	.001	.122	.001		
Step 3				.016	.005
Self-Esteem	.009	.040	.042		
Induction	-.002	.123	-.002		
Self-Compassion	.020	.036	.096		
Personalizing					
Step 1				.109*	.109*
Self-Esteem	-.082	.031	-.330*		
Step 2				.137	.028
Self-Esteem	-.072	.032	-.289*		
Induction	.174	.129	.172		
Step 3				.234*	.097*
Self-Esteem	-.005	.040	-.019		
Induction	.184	.123	.182		
Self-Compassion	-.096	.036	-.410*		
Equanimity					
Step 1				.135**	.135**
Self-Esteem	.091	.031	.368**		
Step 2				.147	.012
Self-Esteem	.085	.032	.341*		
Induction	-.113	.128	-.113		
Step 3				.155	.008
Self-Esteem	.066	.041	.265		
Induction	-.116	.129	-.116		
Self-Compassion	.027	.038	.116		

Table continued on next page.

Humourous					
Step 1				.003	.003
Self-Esteem	.010	.023	.058		
Step 2				.010	.007
Self-Esteem	.013	.024	.078		
Induction	.058	.096	.083		
Step 3				.014	.004
Self-Esteem	.023	.031	.133		
Induction	.060	.097	.085		
Self-Compassion	-.014	.029	-.084		
Total Negative Affect					
Step 1				.134**	.134**
Self-Esteem	-.594	.200	-.366**		
Step 2				.142	.007
Self-Esteem	-.560	.207	-.345**		
Induction	.577	.839	.088		
Step 3				.264*	.122**
Self-Esteem	-.070	.252	-.043		
Induction	.654	.784	.099		
Self-Compassion	-.699	.232	-.460**		

Table 3.8 continued *Note.* *$p < .05$. **$p < .01$

CHAPTER 4

4.1 DISCUSSION

The purpose of my research was to determine if self-compassion can promote healthy reactions, thoughts, and emotions in young female athletes, faced with emotionally difficult sport-specific situations. Specifically, the primary goal of my thesis was to explore whether self-compassion can provide an effective way of dealing with challenging experiences in sport for young women. Findings indicate that young female athletes with higher levels of self-compassion generally *do* react, think, and feel in healthier ways when faced with both recalled and hypothetical, difficult sport-specific scenarios. As such, the results of my study provide further evidence that self-compassion is a potential resource for young women who encounter challenges specifically in sport.

The results of Phase I of my research support the findings of Leary et al. (2007), emphasizing the value of self-compassion for individuals encountering difficult experiences. Participants' baseline self-compassion levels were similar across my study (M = 3.10, SD = 3.51) and the three Leary et al. (2007) studies that are particularly relevant to my research (Study 1: M = 3.15, SD = 3.80; Study 2: M = 3.03, SD = 3.47; Study 5: M = 3.08, SD = 3.51). Like the self-compassion levels in my study, many other scales had means near the midpoint. Also, both my work and the work of Leary et al. (2007) showed that participants with higher levels of self-compassion have healthier reactions, thoughts, and emotions when presented with the *hypothetical* scenario, "being responsible for losing an athletic competition for your team" compared to those with lower self-compassion. Specifically, the correlations between self-compassion and the reactions (i.e., behavioural equanimity), thoughts (i.e., catastrophizing, personalizing,

equanimity, and humourous), and emotions (total negative affect) associated with the hypothetical scenario were all in the predicted direction. For example, "total negative affect" was negatively associated with self-compassion, while "behavioural equanimity" was positively associated with self-compassion, similarly to the findings of Leary et al. (2007).

Also, Leary et al. (2007) found self-compassionate individuals more likely to react, think, and feel in healthy ways to the *recalled* scenario, "the worst thing that happened during the past 4 days that was or was not your fault". Unlike Leary et al. (2007), the *recalled* scenario in my research was sport-specific (i.e., "the worst thing that has happened to you in sport during the past year that was or was not your fault"). Using a recalled scenario specific to a difficult experience in sport made my research especially relevant to a sporting context. Responses to the *recalled* scenario in my research showed that more self-compassionate individuals were more likely to respond in healthier ways than their less self-compassionate counterparts. Again, the correlations between self-compassion and the reactions, thoughts, and emotions were all in the predicted direction, predictions based on the findings by Leary et al. (2007); this is particularly notable because the recalled scenario in my work specifically focused on sport.

After controlling for baseline levels of self-compassion, self-esteem, and narcissism, self-compassion remained a significant predictor of *most* responses to both the hypothetical and recalled scenario. There were a few exceptions, as self-compassion was not a significant predictor of two reactions (i.e., "I kept the situation in perspective" and "I sought out the company of others") and one thought (i.e., "Why do these things always happen to me?"), in response to the *recalled* scenario; nor was self-compassion a

significant predictor of "equanimous thoughts", in response to the *hypothetical* scenario. An explanation for the lack of a significant relationship between self-compassion and the reaction, "I sought out the company of others", as noted by Leary et al. (2007), is that this particular reaction is conceptually unrelated to self-compassion. However, self-compassion was a significant predictor of the reaction, "I kept the situation in perspective", the thought, "Why do these things always happen to me?", and "equanimous thoughts" in Leary et al.'s (2007) research, so it is unclear why self-compassion did not significantly predict those particular thoughts and reactions in my research.

While my conclusions were based on statistical significance, it could potentially be argued whether or not practical significance was obtained for certain relationships. For example, the thought "This isn't any worse than what lots of other people go through" to the recalled scenario was significantly related to self-compassion on a statistical level (r = .231, $p < .05$) and remained statistically significant after semi-partialling out self-esteem and narcissism (r = .198, $p < .05$)[11]. However, based on relatively low r-values (or strength of relationships), the significant correlations present in the example provided aren't necessarily meaningful or telling from a practical standpoint (Miller, 1994; Levine & Hullett, 2002). To develop this point further, Vaske, Gliner, and Morgan (2002) claimed that practical significance must be judged on effect size and the theoretical and applied implications of a study's findings, rather than simply on what is deemed an arbitrary "p-value". Still, I have chosen to base the significance of my findings, solely on

[11] Generally, correlations between self-compassion and various reactions, thoughts, and emotions decreased by about 10%, after semi-partialling out self-esteem and narcissism.

statistical significance because I set my significance value at $p < .05$ at the onset of my study, and also to be consistent with Leary et al. (2007).

Essentially, my Phase I findings further endorse the relationship between self-compassion and healthy ways of dealing with challenging experiences. My research specifically focused on sport-specific situations for young female athletes, and it provides evidence that self-compassion might be useful in such scenarios. My findings suggest that self-compassion may be a useful resource for young women to deal with difficult experiences in sport, which is an extension of the findings of Mosewich et al. (2011). Ultimately, self-compassion emerged beyond self-esteem and narcissism as the main predictor of healthy reactions, thoughts, and emotions in response to both *hypothetical* and *recalled* sport-specific scenarios.

In Phase II, I employed a true experimental design, whereby the induction groups (in this case) were randomly formed, with the use of a random number table. By randomly assigning participants to their respective groups, I was able to assume that each group was equivalent in baseline measures at the beginning of Phase II, and that no sources of invalidity, such as selection biases, were involved (Thomas, Nelson, & Silverman, 2005). Essentially, any changes that occurred between responses at Phase I and Phase II were assumed to be the result of whichever induction (or writing control task) participants received.

While the findings of Phase I were generally consistent with my hypotheses, the results of Phase II were more mixed. It is not clear why the self-compassion induction seemed to have a time effect for only some types of thoughts (i.e., catastrophizing and equanimity), but not other types of thoughts, reactions, and emotions. Catastrophizing

thoughts actually decreased at Phase II in each group (i.e., self-compassion induction group, self-esteem induction group, writing control group), a result emphasized by the findings from the initial doubly multivariate analysis showing a significant time effect on catastrophizing thoughts. However, there was no difference across groups in the impact of induction on catastrophizing thoughts, as evidenced by the non-significant interaction term. Therefore, perhaps simply writing about a hypothetically difficult sport-specific event may cause catastrophizing thoughts about the event to decrease. The same rationale might be applied to the overall time effect for total negative affect, which consists of 20 feelings ranging from sad, to nervous, to angry, to embarrassment. Perhaps writing itself acts as a form of emotional calming for athletes. While not specific to athletes, Baker and Mazza (2004) note the potential therapeutic benefits of expressive writing amongst diverse populations, which could certainly apply to a population of athletes, such as my participants. On the other hand, even though there was a time effect for equanimous thoughts, univariate results shows that equanimous thoughts increased only in the self-compassion induction group. Considering equanimity is synonymous with remaining calm and unflustered (Neff, 2009), which is a core element of self-compassion, equanimous thoughts would theoretically increase following a self-compassion induction, but not necessarily after a self-esteem induction or a writing control task.

Although the initial doubly multivariate analysis showed that there was a time effect for catastrophizing thoughts, equanimous thoughts, and total negative effect, for the *hypothetical* scenario; overall, the data seems to suggest that the self-compassion induction was largely ineffective. This was emphasized by the results of a second doubly multivariate analysis that controlled for initial levels of self-compassion, self-esteem, and

narcissism. Specifically, all of the time effects found in the initial doubly multivariate analysis disappeared in second doubly multivariate analysis. In addition, the follow-up hierarchical regression analyses, similar to that of Leary et al. (2007), also indicated that the induction was ineffective.

The ineffectiveness of the self-compassion induction is in direct contrast to the results of Leary et al.'s (2007), which showed support for the same self-compassion induction used in my research. In particular, Leary et al. (2007) found that individuals *only* in the self-compassion induction group reported significantly lower total negative affect following the self-compassion induction. Participants assigned to a self-esteem induction group, disclosure group, or control group in Leary et al.'s (2007; Study 5) study reported no significant differences in total negative affect. In my research, there was a time effect for negative affect, but the effect was not specific to any one type of induction.

A potential reason that the self-compassion induction seemed to be more effective in Leary et al.'s (2007) study and not in mine could be due to the scenario presented to participants prior to the inductions in each of the studies. Leary et al. (2007) had a general population of undergraduate students who were asked to reflect on a *recalled* negative event from their past, while participants in my study were asked to respond to a *hypothetical* scenario. Although the hypothetical scenario in my research was sport specific, perhaps self-compassion induction is more appropriate to actual events that are experienced. Research suggests that people inaccurately predict how they will react and feel in response to hypothetical scenarios (Wilson & Gilbert, 2003), and also that responses to hypothetical scenarios do not match responses to actual scenarios that people

have encountered (Baumeister, Vohs, & Funder, 2007). In addition, it is possible that Leary et al.'s induction might be more effective in non-sport settings, as participants in their work were not specifically athletes; and therefore, the events they recalled were not as likely to be sport scenarios.

While the self-compassion induction (and self-esteem induction) used in my research was the same one developed and used by Leary et al. (2007), other inductions/interventions, and even other techniques of attempting to raise self-compassion levels, have been employed by researchers. Similar to Leary et al. (2007), Adams and Leary (2007) employed a self-compassion intervention that encouraged individuals to think in a more self-compassionate way. However, in Adams and Leary (2007), a brief video was shown to participants, which also addressed the self-kindness, common humanity, and mindfulness components of self-compassion. Unlike Leary et al.'s (2007) research, Adams and Leary (2007) targeted a population of restrictive and guilty eaters, and their self-compassion intervention was subsequently designed to attenuate negative eating attitudes and reduce distress towards eating habits, amongst participants. Though different in format than the self-compassion induction used by Leary et al. (2007), Adams and Leary's (2007) self-compassion induction also *did* raise self-compassion levels in participants.

Aside from interventions/inductions, therapeutic techniques such as compassionate mind-training (CMT) and the Gestalt two-chair technique have been used in attempts to increase self-compassion levels. Gilbert and Procter (2006) employed CMT, a technique whereby individuals are taught to be understanding and accepting of their safety strategies, when confronted with negative feelings. They found that a sample

of participants who were high in self-criticism and shame had decreased levels of depression, anxiety, self-criticism, shame, inferiority, and submissive behaviour, and increased self-soothing ability, feelings of warmth, and reassurance for the self, following the CMT intervention. However, Gilbert and Procter (2006) employed their CMT intervention through a series of 12 two-hour sessions, which may not be feasible for studies with large participant numbers, such as mine.

Neff et al. (2007) used the Gestalt two-chair technique, which involves participants expressing sentiments of self-judgment while sitting in one chair, and taking on the persona of someone *experiencing* the judgment in the other chair. In Neff et al.'s (2007) study, involving undergraduate students, the Gestalt two-chair technique generally took between 20 and 30 minutes, up to a maximum of 60 minutes per participant. Thus, it might provide a viable alternative to the time issues associated with the CMT. Neff et al. (2007) found increases in self-compassion levels following the Gestalt two-chair technique, as well as that higher self-compassion levels coincided with increased social connectedness and decreased self-criticism, depression, rumination, thought suppression, and anxiety.

A limitation to both CMT and the Gestalt two-chair technique is the lack of specificity to a young female athlete population. While the inductions/interventions and therapeutic techniques used by Leary et al. (2007), Adams and Leary (2007), Gilbert and Procter (2006), and Neff et al. (2007) were all successful in raising self-compassion levels, two included more general populations of undergraduate students (i.e., Leary et al., 2007; Neff et al., 2007), and the other two involved specific populations that were restrictive eaters (i.e., Adams & Leary, 2007) and individuals high in self-criticism and

shame (i.e., Gilbert & Procter, 2006), respectively. Therefore, the effectiveness of these two approaches in fostering self-compassion among young women athletes, particularly in the context of sport, is currently unknown.

Another potential reason for why the self-compassion induction might not have been effective in my study is simply the dominance of trait self-compassion as a predictor of healthy reactions, thoughts, and emotions. According to my regression analysis, initial levels of self-compassion was the dominant predictor, beyond both self-esteem and the induction, of behavioural equanimity, personalizing thoughts, and total negative affect. However, the finding that initial levels of self-compassion was the dominant predictor of healthy reactions, thoughts, and emotions to both the hypothetical and recalled scenarios, provides additional support for self-compassion's potential as a resource for dealing with difficult experiences. It might not just be that easy to induce among young women athletes. Based on this result, the trait-like properties of self-compassion might be more important than its state-like properties in predicting young women athletes' responses to challenging sport situations.

While the design and findings of my study were similar to that of Leary et al. (2007) in many ways, there were a couple of key differences that highlight the unique contributions of my study. My participants specifically were young female athletes, as opposed to a broader sample of undergraduate college students. Thus, my inclusion criteria allowed focus to be placed on the potential effects self-compassion might have on how young females deal with difficult experiences in sport. Also, focusing the inductions on a response to a hypothetical scenario enabled me to use a pre-test/post-test design and directly compare participants' reactions, thoughts, and emotions to the same scenario

both before and after their respective induction (or writing control task). The potential challenge with attempting to do a pre-test/post-test comparison using a recalled scenario, such as that used in Leary et al.'s (2007) or the one used in Phase I of my research (i.e., "the worst thing that has happened to you in sport during the past year that was or was not your fault"), is that there is no guarantee participants would recall the same scenario as in Phase I.

4.2 LIMITATIONS

Despite the strengths of my study, there are also limitations. One of the primary shortcomings of my research might have been the induction. While Leary et al. (2007) found that participants decreased in total negative affect following a self-compassion induction, my study failed to replicate such results. In fact, my findings indicated no significant changes in reactions, thoughts, and emotions following the inductions after controlling for baseline levels of self-compassion, self-esteem, and narcissism. A sport-specific self-compassion induction might be needed for a sample of athletes, such as those in my study. Also, the induction was quite brief, so perhaps a longer, more detailed intervention, such as CMT or the Gestalt two-chair technique would be more effective.

Secondly, while the hypothetical scenario presented to my participants prior to their respective inductions enabled me to use a pre-test/post-test design, this decision might have limited the potential effectiveness of the self-compassion induction. Perhaps a recalled scenario, like the one presented prior to the inductions in Leary et al.'s (2007) study, enabled participants to relate to the situation more than they did with my hypothetical scenario. Participants recalling a situation that had happened to them in the

past might have caused them to benefit more from the self-compassion induction, in terms of having healthier reactions, thoughts, and emotions, following its completion. However, while I may not have found the desired results from my induction, the hypothetical, sport-specific scenario I used was most applicable to my study. Therefore, if the scenario I used prior to the inductions was in fact a limitation of my study, it was the result of pragmatic limitations associated with a pre-post design.

Another limitation to my study was the use of single item and two item measures for the assessment of reactions and thoughts in both the hypothetical and recalled scenarios. Multi-item measures can offer greater validity and reliability, in general, and also capture more information than one and two item measures (Bergkvist & Rossiter, 2007). Also, multi-item measures are required to calculate coefficient alpha, so that internal consistency within a particular scale can be measured (Tavakol & Dennick, 2011). Ultimately, Leary et al.'s (2007) research served as the framework of my study, so I chose to use the same measures of reactions, thoughts, and emotions that were used in their work, many of which were single-item and two-item measures.

Aside from the shortcoming of using single item and two item measures, there is also the potential limitation of having different reaction, thought, and emotion items (response measures) for the hypothetical and recalled scenarios. Since I used the hypothetical scenario, as opposed to the recalled scenario for my induction, naturally I also used the response measures associated with the hypothetical scenario, as provided by Leary et al. (2007). Unfortunately, the response measures Leary et al. (2007) used for the hypothetical scenario were different than the response measures for the recalled scenario, and no rationale was provided by Leary et al. (2007) as to why that was the case. Perhaps

the response measures associated with the recalled scenario in Leary et al.'s (2007) research, which were also used in their induction study, had some influence on how participants responded, and thus impacted the results in a different way than the measures in the induction portion of my study. But, again, I based my research framework on Leary et al. (2007) so I chose to stay consistent with their response items.

There were also limitations in the form of potential redundancy amongst scale items. For example, the reaction to the recalled scenario, "I tried to be kind to myself" is very similar to the item, "I'm kind to myself when I'm experiencing suffering", which is in the SCS. Overlap as such leads to the question of whether the reaction items are actually measuring reactions to the hypothetical and recalled scenario, or simply measuring an individual's self-compassion levels. If particular reaction, thought, and/or emotion items are essentially measuring self-compassion, then it would be difficult to infer that high self-compassion levels lead to healthier reactions, thoughts, and emotions.

My sample size (N = 101 at Phase I; n = 59 at Phase II) was possibly another limitation to my study. Admittedly, I had difficulty recruiting participants, perhaps in part because participation in Phase I was strictly voluntary. While individuals who completed both phases did receive a $10 gift card as compensation for their time, the attrition ratio would suggest that listed compensation was likely not enough to entice participants to finish each phase of my study. Due to the smaller number of individuals who completed Phase II, each of the induction groups had limited participants (i.e., self-compassion induction group, n = 21; self-esteem induction group, n = 20; writing control task group, n = 18), compared to Leary et al.'s (2007) induction groups (self-compassion induction group, n = 29; self-esteem induction group, n = 31; writing control task group, n = 28).

Thus, my study may have lacked the adequate amount of participants to make any conclusions from the results of the inductions, in particular.

While both my study and Leary et al.'s (2007) study had a self-compassion induction group, a self-esteem induction group, and a writing control task group, Leary et al. (2007) also had a fourth group, which was a true control group. In Leary et al.'s (2007) true control group, participants were asked to describe the recalled event and their feelings at the time; but they did not write about it, unlike the writing control task group. Ideally, my study would have included the true control group as well. However, my choice to include only a writing control group was based on both practical and empirical rational. First, not having a fourth group enabled me to have more participants in each of the three groups in my study. Second, Leary et al. (2007) found no significant differences in relationships following the writing control task group and the true control group, so it seemed somewhat redundant to have both. However, a limitation to the choice is that it is possible that simply writing about the event may have caused healthier responses (e.g., less catastrophizing thoughts) and potential benefits (King & Miner, 2000), that may not have occurred following the true control condition used by Leary et al. (2007).

4.3 FUTURE DIRECTIONS

Based on my limitations, arguably the prominent direction for future research stemming from my research is developing an effective self-compassion induction for young women athletes. Leary et al.'s (2007) self-compassion induction was effective to a degree, particularly in their research with a general population, but was mostly ineffective

with my sample of young female athletes. Therefore, a self-compassion induction/intervention designed for young women involved in sport is a specific area to address. Perhaps CMT or the Gestalt two-chair technique would be a more effective intervention than Leary et al.'s (2007) for improving self-compassion levels in young female athletes. However, time constraints would be present with larger sample sizes for CMT, and neither CMT nor the Gestalt two-chair technique have been used in young female athlete populations to date.

Future research needs to continue to explore the trait-like and state-like properties of self-compassion. Neff (2003a) initially measured self-compassion as a trait-like quality via the SCS, though some of the more recent literature would suggest that one's self-compassion levels *can* be altered through successful interventions (Leary et al., 2007; Adams & Leary, 2007). Especially considering my research and the research by Leary et al. (2007) together, it does seem that self-compassion has both trait-like and state-like qualities. While the sample and research intentions of Adams and Leary (2007) were different than Leary et al.'s (2007), the overlying commonality is that both interventions were successful, and support the notion that self-compassion can be altered. Nonetheless, with my research highlighting the trait-like qualities of self-compassion, it seems no firm conclusions can be made at this time, so future researchers should be advised to further explore the trait-like versus state-like debate.

Also worth noting is that certain individuals may be more predisposed than others to have increased levels of self-compassion following an induction or intervention. In a sample of individuals with high levels of self-criticism and shame, Gilbert and Procter (2006) successfully used CMT to decrease depression, anxiety, self-criticism, shame,

inferiority, and submissive behavior, and also increase participants' ability to be self-soothing and focus on feelings of warmth and reassurance for the self. While I suggested previously that the intervention *style* may have been the crucial element in its effectiveness, perhaps it was the *traits* of the participants (i.e., high self-criticism and shame) that were, or were not, conducive to the success of intervention. Similar to Gilbert and Proctor's findings, young women athletes with higher levels of self-criticism and shame specifically might be more likely to benefit to a self-compassion intervention.

Along the same lines, perhaps young female athletes with lower baseline levels of self-compassion may be more likely to have increased self-compassion levels from a self-compassion intervention. My participants had self-compassion mean scores that were very close to the midpoint of the SCS (M = 3.10, with 3.00 being the midpoint), so they may have been less inclined to have raised self-compassion levels from the self-compassion induction in my study, since there was theoretically less room for improvement. Thus, it would be interesting to conduct a future research project targeting female athletes high in self-criticism and shame, or low in self-compassion, to determine if they benefit more from a self-compassion intervention than female athletes with midrange or high baseline levels of self-compassion.

Another future direction for self-compassion research is to explore whether self-compassion leads to healthy reactions, thoughts, and emotions; or alternatively whether people who respond with healthy reactions, thoughts, and emotions to difficult scenarios, are resultantly more self-compassionate. For example, if individuals learn to react, think, and feel in certain ways, perhaps self-compassion is developed in the process. Longitudinal self-compassion interventions may be best suited to explore whether or not

self-compassion is indeed a contributing factor to healthier reactions, thoughts, and emotions. Speaking further to the notion that self-compassion may possibly be developed through learning, future research could also address specifically how self-compassion might be taught and/or learned.

The hypothetical scenario, "being responsible for losing an athletic competition for your team", may account for part of the reason that my self-compassion induction was largely ineffective. While that scenario was used previously by Leary et al. (2007), and did focus on sport, it may not have been the ideal scenario to use with a sporting sample. According to Mosewich, Crocker, and Kowalski (in press), poor performance, injury, and performance plateau all emerged as setbacks that athletes had difficulties and challenges in dealing with. So, it may be useful for future research to employ an alternate to the hypothetical situation presented in my study. In particular, based on the work of Mosewich et al. a focused on poor performance, injury, or performance plateau might be particularly relevant and meaningful to a sample of athletes.

In my research, four emotion subscales (i.e., sadness, anxiety, anger, and self-conscious emotions) were summed to create a composite measure of total negative affect, which was ultimately compared to self-compassion. The subscales were each comprised of affect-relevant terms (e.g., the self-conscious emotions subscale was comprised of the terms embarrassed, humiliated, guilty, and ashamed). The decision to use emotion subscales and create a composite subscale summation of total negative affect was based on the work of Leary et al. (2007). Though significant relationships were evident between self-compassion and both the emotion subscales and total negative affect, it would be interesting to determine if specific emotions were also related individually to self-

compassion. An example of a study that has applied the concept of comparing self-compassion with particular emotions is that of Mosewich et al. (2011), and their findings suggested relationships between self-compassion and guilt-free shame, shame-free guilt, and authentic pride. Perhaps most interestingly, is that the relationships between self-compassion and guilt-free shame, and self-compassion and shame-free guilt, were in opposite directions. Specifically, self-compassion was negatively related to guilt-free shame and positively related to shame-free guilt (Mosewich et al., 2011). Thus, while self-compassion was negatively related to each of the emotion subscales and the composite summation of the subscales in my research, perhaps individual items within particular emotion subscales may have been positively related to self-compassion, which provides more justification for examining relationships between self-compassion and specific emotions in the future.

Despite all the positive associations with higher levels of self-compassion that my research and past research (Neff, 2003a; Neff, 2003b; Leary et al., 2007; Adams and Leary, 2007; Mosewich et al., 2011) have depicted, there may be reason to believe that certain populations may not benefit from being overly self-compassionate (Mosewich et al., in press). While "overly self-compassionate" is difficult to define, some individuals may require, or at least feel that they require, some level of self-criticism to achieve optimal performance in their respective fields (Mosewich et al., in press). In fact, Gilbert, McEwan, Matos, and Rivis (2011) determined that people sometimes fear being compassionate towards themselves and others, and actively resist engaging in compassionate experiences or behaviours. Of particular relevance to my research, is the idea that elite athletes may indeed benefit from self-criticism to reach their desired level

and improve on past performance, specifically past performance where mistakes were made. It would be quite interesting if a future research project were to direct focus at whether self-criticism is necessary to flourishing in sport.

Future researchers might also wish to assess whether the merits of self-compassion follow the same general trends amongst individuals who consider themselves primarily team sport athletes (e.g., soccer) and those who consider themselves individual sport athletes (e.g., marathon running). I chose not to differentiate between individual and team sport athletes in my analyses because I felt that both types of athletes would theoretically be able to envision the hypothetical scenario, "being responsible for losing an athletic competition for your team", and respond accordingly to the series of questions regarding the scenario. Also, many of the individuals who self-reported as participants in individual sports, also self-reported as partaking in team sports at some capacity, so the designation of someone specifically being a "team sport" or "individual sport" athlete might be a bit misleading. However, it is certainly feasible that exclusively individual sport athletes, or even individuals who consider themselves as predominantly individual sport athletes, would find it more difficult to respond to a series of questions regarding a team-oriented hypothetical scenario. Additionally, coping techniques employed by team sport athletes have been shown to involve more passive acceptance from others, while individual sport athletes display a tendency to activate problem-solving strategies in face of stressors (Johnson, 1997). Thus, it would seem that there are differences in the ways team sport athletes and individual sport athletes might deal with difficult situations. This is particularly relevant, if self-compassion is considered as a personal resource that is used to help manage an emotionally difficult situation.

4.4 CONTRIBUTIONS TO THE LITERATURE

My research builds on the current body of literature in the field of self-compassion, and provides an opportunity for the advancement of research by linking the use of self-compassion with young female athletes. While my study had a similar design to Leary et al.'s (2007), I focused specifically on young female athletes in my research. Also, I used a pre-post design in my study, which enabled me to directly compare participants' reactions, thoughts, and emotions to the same hypothetical scenario, both before and after their respective inductions. Finally, a *sport-specific*, emotionally difficult recalled scenario was used in my work. Thus, I was able to explore the difficult experiences young female athletes endure in sport, and how they react, think, and feel about them, which is something that has not previously been researched in the area of self-compassion. Finding that young female athletes with higher self-compassion levels generally responded in healthier ways to emotionally difficult, hypothetical *and* recalled situations in sport than their less self-compassionate counterparts, is a platform for research in the specific area of self-compassion and female athletes.

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APPENDICES

Appendix A

Self-Compassion Scale (SCS)

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				Almost always
1	2	3	4	5

_____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

_____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

_____ 5. I try to be loving towards myself when I'm feeling emotional pain.

_____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

_____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.

_____ 8. When times are really difficult, I tend to be tough on myself.

_____ 9. When something upsets me I try to keep my emotions in balance.

_____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.

_____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

_____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

_____ 14. When something painful happens I try to take a balanced view of the situation.

_____ 15. I try to see my failings as part of the human condition.

_____ 16. When I see aspects of myself that I don't like, I get down on myself.

_____ 17. When I fail at something important to me I try to keep things in perspective.

_____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

_____ 19. I'm kind to myself when I'm experiencing suffering.

_____ 20. When something upsets me I get carried away with my feelings.

_____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

_____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.

_____ 23. I'm tolerant of my own flaws and inadequacies.

_____ 24. When something painful happens I tend to blow the incident out of proportion.

_____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.

_____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

Appendix B

Rosenberg Self-Esteem Scale (RSES)

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

1. On the whole, I am satisfied with myself.	SA A D SD
2.* At times, I think I am no good at all.	SA A D SD
3. I feel that I have a number of good qualities.	SA A D SD
4. I am able to do things as well as most other people.	SA A D SD
5.* I feel I do not have much to be proud of.	SA A D SD
6.* I certainly feel useless at times.	SA A D SD
7. I feel that I'm a person of worth, at least on an equal plane with others.	SA A D SD
8.* I wish I could have more respect for myself.	SA A D SD
9.* All in all, I am inclined to feel that I am a failure.	SA A D SD
10. I take a positive attitude toward myself.	SA A D SD

Scoring: SA=3, A=2, D=1, SD=0. Items with an asterisk are reverse scored, that is, SA=0, A=1, D=2, SD=3. Sum the scores for the 10 items. The higher the score, the higher the self-esteem.

Appendix C

40-Item Narcissistic Personality Inventory (NPI)

Instructions: Here you'll find a list of 40 statements, one in Column A and the opposite in Column B. For each statement, choose the item from Column A or B that **best matches you** (even if it's not a perfect fit).

1. A. I have a natural talent for influencing people. B. I am not good at influencing people.

2. A. Modesty doesn't become me. B. I am essentially a modest person.

3. A. I would do almost anything on a dare. B. I tend to be a fairly cautious person.

4. A. When people compliment me I sometimes get embarrassed. B. I know that I am good because everybody keeps telling me so.

5. A. The thought of ruling the world frightens the hell out of me. B. If I ruled the world it would be a better place.

6. A. I can usually talk my way out of anything. B. I try to accept the consequences of my behavior.

7. A. I prefer to blend in with the crowd. B. I like to be the center of attention.

8. A. I will be a success. B. I am not too concerned about success.

9. A. I am no better or worse than most people. B. I think I am a special person.

10. A. I am not sure if I would make a good leader. B. I see myself as a good leader.

11. A. I am assertive. B. I wish I were more assertive.

12. A. I like to have authority over other people. B. I don't mind following orders.

13. A. I find it easy to manipulate people. B. I don't like it when I find myself manipulating people.

14. A. I insist upon getting the respect that is due me. B. I usually get the respect that I deserve.

15. A. I don't particularly like to show off my body. B. I like to show off my body.

16. A. I can read people like a book. B. People are sometimes hard to understand.

17. A. If I feel competent I am willing to take responsibility for making decisions. B. I like to take responsibility for making decisions.

18. A. I just want to be reasonably happy. B. I want to amount to something in the eyes of the world.

19. A. My body is nothing special. B. I like to look at my body.

20. A. I try not to be a show off. B. I will usually show off if I get the chance.

21. A. I always know what I am doing. B. Sometimes I am not sure of what I am doing.

22. A. I sometimes depend on people to get things done. B. I rarely depend on anyone else to get things done.

23. A. Sometimes I tell good stories. B. Everybody likes to hear my stories.

24. A. I expect a great deal from other people. B. I like to do things for other people.

25. A. I will never be satisfied until I get all that I deserve. B. I take my satisfactions as they come.

26. A. Compliments embarrass me. B. I like to be complimented.

27. A. I have a strong will to power. B. Power for its own sake doesn't interest me.

28. A. I don't care about new fads and fashions. B. I like to start new fads and fashions.

29. A. I like to look at myself in the mirror. B. I am not particularly interested in looking at myself in the mirror.

30. A. I really like to be the center of attention. B. It makes me uncomfortable to be the center of attention.

31. A. I can live my life in any way I want to. B. People can't always live their lives

in terms of what they want.

32. A. Being an authority doesn't mean that much to me. B. People always seem to recognize my authority.

33. A. I would prefer to be a leader. B. It makes little difference to me whether I am a leader or not.

34. A. I am going to be a great person. B. I hope I am going to be successful.

35. A. People sometimes believe what I tell them. B. I can make anybody believe

anything I want them to.

36. A. I am a born leader. B. Leadership is a quality that takes a long time to develop.

37. A. I wish somebody would someday write my biography. B. I don't like people to pry into my life for any reason.

38. A. I get upset when people don't notice how I look when I go out in public. B. I don't mind blending into the crowd when I go out in public.

39. A. I am more capable than other people. B. There is a lot that I can learn from other people.

40. A. I am much like everybody else. B. I am an extraordinary person.

Appendix D

Demographics

Gender:_____ Age:_____

Height:_____ Weight:_____

Date of Birth (month/date/year):

Have you had your first menstruation (circle one)? Yes or No
If yes, what was the month and year of 1st menstrual period? Month Year

Sociocultural Information:
How would you describe yourself? You may mark more than one or specify, if applicable.

___ Aboriginal ___ Latin American

___ Arab ___ South Asian *(e.g., East Indian, Pakistani, Sri Lankan, etc.)*

___ Black ___ Southeast Asian *(e.g., Vietnamese, Cambodian, Malaysian, Laotian, etc.)*

___ Chinese ___ West Asian *(e.g., Iranian, Afghan, etc.)*

___ Filipino ___ White

___ Japanese ___ Other – *Specify*_____

Parental education level (check highest one attained):

Father	Mother	
☐	☐	did not finish high school
☐	☐	graduated from high school
☐	☐	some education after high school
☐	☐	graduated from college
☐	☐	I'm not sure

Appendix E

Current Sport Participation Questionnaire

Sport Involvement and Competition Level

Please indicate the levels of sport competition you have competed at IN THE LAST 12 MONTHS. Also indicate the sport(s) that each level is applicable to (i.e., what sport(s) you competed in at each level).

Club/Community Sport:

LEVEL	SPORT(S)
Recreational (competing in intramurals or in a recreational league)	
Local (competing against athletes from your city/town)	
Provincial (competing against athletes from around the province of Saskatchewan)	
Regional (competing against athletes from the western provinces (BC, AB, SK, MB))	
National (competing at a National Championship)	
International I (competing against athletes from a country other than Canada)	
International II (member of a national team (i.e., representing/represented Canada))	

During the <u>PAST WEEK</u>, how many times did you play an active sport, such as baseball, softball, basketball, soccer, swimming, or football? *(circle one)*

0 1 2 3

not at all *5 or more times*

Appendix F

Reactions Pertaining to the Hypothetical Scenario

Reactions to the following hypothetical scenario: "Being responsible for losing an athletic competition for your team"

How likely would you be to react in each of the following ways if you found yourself being responsible for losing an athletic competition for your team? Please rate your potential reaction between 1 and 5 (1 = not at all, 2 = slightly, 3 = moderately, 4 = very, 5 = extremely).

1. ____ remain calm and unflustered

2. ____ overreact

3. ____ experience strong emotions but not get carried away

4. ____ have no emotional reaction whatsoever

5. ____ take the situation in stride

6. ____ leave the situation quickly in order to deal with my emotions

7. ____ replay the situation in my mind for a long time afterwards

Appendix G

Thoughts Pertaining to the Hypothetical Scenario

Thoughts about the following hypothetical scenario: "Being responsible for losing an athletic competition for your team"

Please rate how likely you would be to think each of the following thoughts if you found yourself being responsible for losing an athletic competition for your team. Your rating should be between 1 and 5 (1 = not at all, 2 = slightly, 3 = moderately, 4 = very, 5 = extremely).

1. ____ This is awful!

2. ____ Everybody goofs up now and then.

3. ____ In the long run, this really doesn't matter.

4. ____ I am such a loser.

5. ____ I wish I could die.

6. ____ This is sort of funny.

7. ____ I should have expected this would happen.

Appendix H

Emotions Pertaining to the Hypothetical Scenario

Emotions about the following hypothetical scenario: "Being responsible for losing an athletic competition for your team"

How good or bad would you feel, if you found yourself being responsible for losing an athletic competition for your team? Please respond between 1 and 12 (1 = extremely bad, 12 = extremely good).

Indicate your rating here: _____

To what degree would you experience each of the following feelings if you found yourself being responsible for losing an athletic competition for your team? Please respond between 1 and 7 (1 = not at all, 4 = moderately, 7 = extremely).

1. ____ sad
2. ____ dejected
3. ____ down
4. ____ depressed
5. ____ nervous
6. ____ tense
7. ____ worried
8. ____ anxious
9. ____ angry
10. ___ irritated
11. ___ mad
12. ___ hostile
13. ___ embarrassed
14. ___ humiliated
15. ___ disgraced
16. ___ ashamed
17. ___ incompetent
18. ___ worthless
19. ___ stupid
20. ___ self-conscious

Appendix I

Recalled Scenario/Rating the Recalled Scenario

Please recall and describe in two or fewer sentences, *"the worst thing that has happened to you in sport during the past year, that was or was not your fault".* Keep in mind that the event you are recalling may have been quite bad, or it could have been very minor.

_____

_____

_____

_____

Now, please rate how "bad" the event was, between 1 and 6 (1 = not at all, 2 = slightly, 3 = somewhat, 4 = moderately, 5 = very, 6 = extremely).

Indicate your rating here: _____

Please rate "the degree to which you were responsible for the event", between 1 and 6 (1 = not at all, 2 = slightly, 3 = somewhat, 4 = moderately, 5 = very, 6 = extremely).

Indicate your rating here: _____

Please rate "the degree to which other people were responsible for the event", between 1 and 6 (1 = not at all, 2 = slightly, 3 = somewhat, 4 = moderately, 5 = very, 6 = extremely).

Indicate your rating here: _____

Please indicate "in the big scheme of things, how important was this event to you?" Your rating should be between 1 and 6 (1 = not at all, 2 = slightly, 3 = somewhat, 4 = moderately, 5 = very, 6 = extremely).

Indicate your rating here: _____

Appendix J

Reactions Pertaining to the Recalled Scenario

Reactions to the recalled event

Please rate the degree to which you reacted in each of the following ways to the event you recalled above. Your rating should be between 1 and 6 (1 = not at all, 2 = slightly, 3 = somewhat, 4 = moderately, 5 = very, 6 = extremely).

1. ____ I tried to be kind to myself.

2. ____ I tried to make myself feel better.

3. ____ I was really hard on myself.

4. ____ I kept the situation in perspective.

5. ____ I tried to do things to take my mind off the problem.

6. ____ I expressed my emotions to let off steam.

7. ____ I took steps to fix the problem or made plans to do so.

8. ____ I sought out the company of others.

9. ____ I gave myself time to come to terms with it.

Appendix K

Thoughts Pertaining to the Recalled Scenario

Thoughts about the recalled event

Please indicate the extent to which you thought each of the following thoughts about the recalled event you described above. Your rating should be between 1 and 5 (1 = I did not think this thought at all, 2 = I thought this once, 3 = I thought this a few times, 4 = I thought this several times, 5 = I kept thinking this thought).

1. ____ I seem to have bigger problems than most people do.

2. ____ I'm a loser.

3. ____ This isn't any worse than what lots of other people go through.

4. ____ Why do these things always happen to me?

5. ____ In comparison to other people, my life is really screwed up.

6. ____ Everyone has a bad day now and then.

Appendix L

Emotions Pertaining to the Recalled Scenario

Emotions about the recalled event

Please indicate the extent to which you felt each of the following feelings about the recalled event you described above. Your rating should be between 1 and 6 (1 = not at all, 2 = slightly, 3 = somewhat, 4 = moderately, 5 = very, 6 = extremely).

1. ____ sad
2. ____ dejected
3. ____ down
4. ____ depressed
5. ____ nervous
6. ____ fearful
7. ____ worried
8. ____ anxious
9. ____ irritated
10. ____ angry
11. ____ hostile
12. ____ mad
13. ____ embarrassed
14. ____ humiliated
15. ____ guilty
16. ____ ashamed

Appendix M

Participant Consent Form

UNIVERSITY OF SASKATCHEWAN
PARTICIPANT CONSENT FORM

You are invited to participate in a study entitled: **Self-compassion: A potential buffer for emotionally difficult experiences in sport by young female athletes.**
Please read this form carefully, and feel free to ask questions you might have.

Researchers:

Nathan A. Reis
College of Kinesiology
University of Saskatchewan
Phone: 966-1123
Email: nathan.reis@usask.ca

Dr. Kent Kowalski
College of Kinesiology
University of Saskatchewan
Phone: 966-1079
Email: kent.kowalski@usask.ca

Purpose and Objectives: The purpose of this study is to determine whether self-compassion (i.e., treating oneself kindly and with a warm understanding, in the face of pain or failure) can promote healthy reactions, thoughts, and emotions to sport-specific, emotionally difficult situations for young female athletes.
The findings will be used to complete a Master's thesis project and the results will be presented to the College of Kinesiology at the University of Saskatchewan. The results will also be submitted to a scholarly journal for publication and will be made available to any interested parties (e.g., athletes, parents, etc.) upon request. The data will be reported in aggregate form, so your responses will be kept anonymous and confidential.

Procedure: Your participation will be required in two phases. The first phase will be completed online at a time of your convenience, while the second phase will require you to meet a female research assistant at the Physical Activity Complex (PAC) at the University of Saskatchewan. This meeting can be arranged to fit your schedule, as long as it is within 2-3 weeks of your completion of the first phase.
Phase I: You will be required to complete a short on-line questionnaire package, which should take approximately 30 minutes to complete. The package includes general demographical information, questions regarding sport involvement, questionnaires assessing various behaviours and emotions, and questions assessing reactions, thoughts, and emotions to a hypothetical and a recalled sport-specific scenario.
Phase II: You will be required to meet a female research assistant in person, at which point you will be refreshed of the same hypothetical scenario as in Phase I, and then given a package with a series of prompts. You will be asked to write about the hypothetical scenario, and directions will accompany the series of prompts. Once you have completed the written task, you will be asked questions to assess reactions, thoughts, and emotions. You will then be asked to complete a final online questionnaire. The second phase should take approximately 30 minutes to complete.

Potential Benefits: As a participant in this study, you will receive a $10 gift certificate as compensation for your time and participation, if you complete both Phase I and Phase II. While no other benefits of participation in this study can be guaranteed, there is potential that some participants may be able to utilize self-compassion in dealing with future

emotionally difficult experiences in sport. Ultimately, the use of self-compassion may help some participants have a more positive overall experience in sport.

Potential Risks: This study will not subject you to any physical risk. You can refuse to answer any question in the questionnaire package and doing so will result in no penalty to her or anyone else. Although we do not expect any psychological risk, if we feel participation is placing you under undo stress we will discontinue your involvement in the study, again resulting in no penalty. Any data collected prior to this point will be omitted from the study and destroyed. In the event that you would like to further discuss your feelings regarding the topic, Mental Health Services can be of assistance. Their information is as follows:

Mental Health and Addiction Services- *services available to public, no fee*
Phone # - **655-7950**

- Youth Community Counseling
  -Services for adolescents 12-19
- Adult Community Mental Health and Addictions
  - Services for adults 19 years and up

Storage of Data: All questionnaires will be stored in the secure office of Dr. Kent Kowalski at the University of Saskatchewan for a minimum of five years after the publication of the findings. After this time, the questionnaires will be destroyed.

Confidentiality: Although the data from this research project will be published and presented at conferences, the data will be reported in aggregate form, so that it will not be possible to identify individuals. Participants will be assigned participant numbers, so their consent forms can be associated with their data. Moreover, the consent forms will be stored separately from the questionnaires, so that it will not be possible to associate a name with any given set of responses. It is asked that you not put your name or other identifying information on the questionnaire package.

Right to Withdraw: Your participation is voluntary, and you may withdraw from the study for any reason, at any time, without penalty of any sort. The decision to withdraw will not affect any of your current or future activities. Your right to withdraw data from the study will apply until Phase II data has been entered, at which point links between participant numbers and data will be destroyed, and it will not be possible to withdraw your data. As a participant, you may also refuse to answer individual questions, again without any penalty. You will be advised of any new information that may have a bearing on your decision to participate.

Questions: If you have any questions concerning the research project, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided if you have any other questions. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Sciences Research Ethics Board on

November 1, 2010. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

Follow-up or Debriefing: A copy of the completed manuscript will be available upon request to the researchers.

Consent to Participate: I have read and understood the description provided; I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the research project, understanding that I may withdraw this consent at any time. A copy of this consent form has been given to me for my records.

Online survey addition:

Consent to Participate:

I have read and understood the description provided; I have had an opportunity to ask questions and my questions have been answered. I consent to participate in the research project, understanding that I may withdraw my consent at any time.

- ☐ Yes
- ☐ No

Appendix N

Parental Consent Form

UNIVERSITY OF SASKATCHEWAN
PARENT/GUARDIAN CONSENT FORM

Your daughter is invited to participate in a study entitled: **Self-compassion: A potential buffer for emotionally difficult experiences in sport by young female athletes.**

Please read this form carefully, and feel free to ask questions you might have.

Researchers:

Nathan A. Reis
College of Kinesiology
University of Saskatchewan
Phone: 966-1123
Email: nathan.reis@usask.ca

Dr. Kent Kowalski
College of Kinesiology
University of Saskatchewan
Phone: 966-1079
Email: kent.kowalski@usask.ca

Purpose and Objectives: The purpose of this study is to determine whether self-compassion (i.e., treating oneself kindly and with a warm understanding, in the face of pain or failure) can promote healthy reactions, thoughts, and emotions to sport-specific, emotionally difficult situations for young female athletes.
The findings will be used to complete a Master's thesis project and the results will be presented to the College of Kinesiology at the University of Saskatchewan. The results will also be submitted to a scholarly journal for publication and will be made available to any interested parties (e.g., coaches, trainers, athletes, parents, etc.) upon request. The data will be reported in aggregate form, so your daughter's responses will be kept anonymous and confidential.

Procedure: Your daughter's participation will be required in two phases. The first phase will be completed online at a time of her convenience, while the second phase will require your daughter to meet a female research assistant at the Physical Activity Complex (PAC) at the University of Saskatchewan. This meeting can be arranged to fit her schedule, as long as it is within 2-3 weeks of her completion of the first phase.
Phase I: Your daughter will be required to complete a short online questionnaire package, which should take approximately 30 minutes to complete. The package includes general demographical information, questions regarding sport involvement, questionnaires assessing various behaviours and emotions, and questions assessing reactions, thoughts, and emotions to a hypothetical and a recalled sport-specific scenario. The questionnaire package is to be completed online by each participant.
Phase II: Your daughter will be required to meet a female research assistant in person, at which point she will be refreshed of the same hypothetical scenario as in Phase I, and then given a package with a series of prompts. She will be asked to write about the hypothetical scenario, and directions will accompany the series of prompts. Once she has completed the written task, she will be asked the same set of questions to assess reactions, thoughts, and emotions. She will then be asked to complete a final online questionnaire. The second phase should take approximately 30 minutes to complete.

Potential Benefits: As a participant in this study, your daughter will receive a $10 gift card as compensation for her time and participation, if she completes both Phase I and Phase II. While no other benefits of participation in this study can be guaranteed, there is potential that some participants may be able to utilize self-compassion in dealing with future emotionally difficult experiences in sport. Ultimately, the use of self-compassion may help some participants have a more positive overall experience in sport.

Potential Risks: This study will not subject your daughter to any physical risk. She can refuse to answer any question in the questionnaire package and doing so will result in no penalty to her or anyone else. Although we do not expect any psychological risk, if we feel participation is placing her under undo stress we will discontinue her involvement in the study, again resulting in no penalty. Any data collected prior to this point will be omitted from the study and destroyed. In the event that your daughter would like to further discuss her feelings regarding the topic, Mental Health Services can be of assistance. Their information is as follows:

Mental Health and Addiction Services- *services available to public, no fee*
Phone # - **655-7950**

- Youth Community Counseling
  -Services for adolescents 12-19
- Adult Community Mental Health and Addictions
  - Services for adults 19 years and up

Storage of Data: All questionnaires will be stored in the secure office of Dr. Kent Kowalski at the University of Saskatchewan for a minimum of five years after the publication of the findings. After this time, the questionnaires will be destroyed.

Confidentiality: Although the data from this research project will be published and presented at conferences, the data will be reported in aggregate form, so that it will not be possible to identify individuals. Participants will be assigned participant numbers, so their consent forms can be associated with their data. Moreover, the consent forms will be stored separately from the questionnaires, so that it will not be possible to associate a name with any given set of responses. It is asked that your daughter not put her name or other identifying information on the questionnaire package.

Right to Withdraw: Your daughter's participation is voluntary, and she may withdraw from the study for any reason, at any time, without penalty of any sort. The decision to withdraw will not affect any of her current or future activities. Your daughter's right to withdraw data from the study will apply until Phase II data has been entered, at which point links between participant numbers and data will be destroyed, and it will not be possible to withdraw her data. As a participant, your daughter may also refuse to answer individual questions, again without any penalty. Your daughter will be advised of any new information that may have a bearing on her decision to participate.

Questions: If you have any questions concerning the research project, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided if you have any other questions. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Sciences Research Ethics Board on November 1, 2010. Any questions regarding your daughter's rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

Follow-up or Debriefing: A copy of the completed manuscript will be available upon request to the researchers.

Consent to Participate: I have read and understood the description provided; I have been provided with an opportunity to ask questions and my/our questions have been answered satisfactorily. I consent to having my daughter, _____, participate in the research project, understanding that she may withdraw this consent at any time. A copy of this consent form has been given to me for my records.

_____ _____
(Name of Parent, Guardian, or Caregiver) (Date)

_____ _____
(Signature of Parent, Guardian, or Caregiver) (Signature of Researcher)

Appendix O

Additional Post-Hoc Hierarchical Regression Analysis

I ran a post-hoc hierarchical regression analysis in which I entered mean-centered self-compassion and mean-centered self-esteem at Step 4 to determine if there was an impact of a self-compassion and self-esteem interaction on the reactions, thoughts, and emotions. The findings proved non-significant for all dependent variables.

An additional post-hoc analysis was conducted to look at the interaction between the induction, self-compassion, and self-esteem on the reactions, thoughts, and emotions for each of the dependent variables. To run this analysis, at Step 4 I entered each of the following interaction terms: mean-centered self-compassion x mean-centered self-esteem, mean-centered self-compassion x induction, and mean-centered self-esteem x induction. Then, at Step 5, I added a three-way interaction (i.e., mean-centered self-compassion x mean-centered self-esteem x induction). Step 5 was significant for the following dependent variables: equanimous thoughts and total negative affect. The table on the next page features Step 4 and Step 5 for equanimous thoughts and total negative affect.

Criterion Variable	B	SE B	β	R^2	ΔR^2
Thoughts					
Equanimity					
Step 1				.135**	.135**
Self-Esteem	.091	.031	.368**		
Step 2				.147	.012
Self-Esteem	.085	.032	.341*		
Induction	-.113	.128	-.113		
Step 3				.155	.008
Self-Esteem	.066	.041	.265		
Induction	-.116	.129	-.116		
Self-Compassion	.027	.038	.116		
Step 4				.206	.051
Self-Esteem	.184	.105	.739		
Induction	-.123	.129	-.122		
Self-Compassion	-.118	.099	-.507		
Self-Compassion x Self-Esteem Interaction	.010	.009	.149		
Self-Compassion x Induction Interaction	.076	.048	.691		
Self-Esteem x Induction Interaction	-.073	.056	-.572		
Step 5				.346**	.140**
Self-Esteem	.137	.097	.551		
Induction	.164	.147	.163		
Self-Compassion	-.185	.093	-.794		
Self-Compassion x Self-Esteem Interaction	.080	.023	1.149**		
Self-Compassion x Induction Interaction	.102	.045	.930*		
Self-Esteem x Induction Interaction	-.043	.052	-.337		
Self-Compassion x Self-Esteem x Induction Interaction	-.033	.010	-1.099**		
Total Negative Affect					
Step 1				.134**	.134**
Self-Esteem	-.594	.200	-.366**		
Step 2				.142	.007
Self-Esteem	-.560	.207	-.345**		
Induction	.577	.839	.088		
Step 3				.264*	.122**
Self-Esteem	-.070	.252	-.043		
Induction	.654	.784	.099		
Self-Compassion	-.699	.232	-.460**		
Step 4				.284	.021
Self-Esteem	.527	.651	.325		
Induction	.665	.799	.101		
Self-Compassion	-1.350	.615	-.888*		
Self-Compassion x Self-Esteem Interaction	-.010	.058	-.021		

Table continued on next page

Self-Compassion x Induction Interaction	.346	.297	.484		
Self-Esteem x Induction Interaction	-.328	.346	-.396		
Step 5				.397	.113**
Self-Esteem	.802	.609	.494		
Induction	-1.020	.920	-.155		
Self-Compassion	-.958	.584	-.631		
Self-Compassion x Self-Esteem Interaction	-.418	.143	-.920**		
Self-Compassion x Induction Interaction	.193	.280	.270		
Self-Esteem x Induction Interaction	-.504	.325	-.607		
Self-Compassion x Self-Esteem x Induction Interaction	.192	.062	.988**		

Note. *$p < .05$. **$p < .01$

Note. Self-Compassion and Self-Esteem were entered as mean-centered variables for all steps.